# Gold Star Co., Ltd.

# AMPLIFIER
# GSA-6500
# TUNER
# GST-2000
# CASSETTE DECK
# GSK-1100

# MINI COMPONENT SYSTEM

# SERVICE MANUAL

## SPECIFICATIONS

### A-6500

| | | |
|---|---|---|
| utput Power (8 ohm) | | |
| continuous | : | 30W + 30W |
| .H.D | : | 0.09% |
| requency Response | : | 20-30000Hz |
| /N Ratio | | |
| PHONO | : | 60dB |
| TUNER/AUX | : | 80dB |
| hannel Separation | | |
| PHONO | : | 45dB |
| TUNER/AUX | : | 50dB |
| ıput Sensitivity | | |
| PHONO | : | 2.4mV |
| TUNER/AUX | : | 160mV |
| e Control | | |
| BASS (100Hz) | : | ±10dB |
| TREBLE (10kHz) | : | ±10dB |
| oudness | | |
| 80Hz | : | +7dB |
| 10kHz | : | +3.5dB |
| ilter | | |
| LOW (30Hz) | : | -10dB |
| HIGH (10kHz) | : | -10dB |
| OAD Impedance | : | 8-16 ohm |
| emiconductor | : | 16 ICs, 31 TR, 24 DIODEs<br>1 Fluorescent Display |
| ower Supply | : | See the back panel |
| ower Consumption | : | 180W (Max.) |
| eight | : | 5.6kg |
| imension | : | 342 (W) x 71 (H) x 275 (D) m/m |

### T-2000

M SECTION

| | | |
|---|---|---|
| * Frequency Range | : | 87.5-108MHz |
| * Usable Sensitivity | : | 1.8uV |
| * S/N Ratio | : | 65dB |
| * IF Rejection | : | 90dB |
| * Image Rejection | : | 70dB |
| * Distortion | : | 0.15% |
| * Selectivity (±400kHz) | : | 70dB |
| * Search stop Level (98MHz) | : | 10uV |
| * Output Voltage (75kHz Dev) | : | 700mV |
| * Stereo Separation | : | 45dB |

* AM SECTION

| | | |
|---|---|---|
| * Frequency Range | : | 531-1602kHz |
| * Usable Sensitivity | : | 316uV/m |
| * S/N Ratio | : | 45dB |
| * IF Rejection | : | 25dB |
| * Image Rejection | : | 40dB |
| * Distortion | : | 1% |
| * Selectivity (±9kHz) | : | 40dB |
| * Search stop Level (999kHz) | : | 5mV/m |
| * Output Voltage (30% Mod) | : | 250mV |

* GENERAL

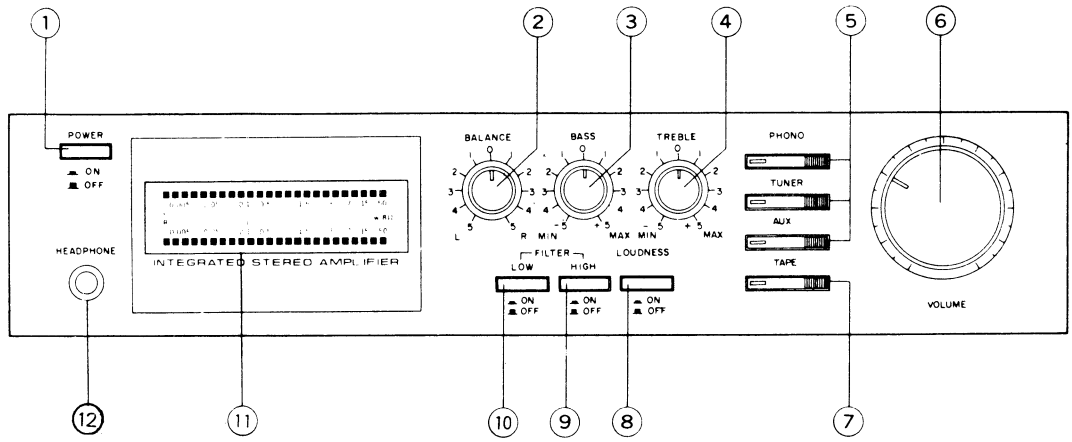
| | | |
|---|---|---|
| * Power Supply | : | See the back panel |
| * Semiconductor | : | 12IC, 5 FET, 29 TR, 63 DIODE<br>1 Fluorescent Display |
| * Power Consumption | : | 6W (Max) |
| * Weight | : | 3.4Kg |
| * Dimension | : | 342(W) x 71 (H) x 275 (D) m/m |

### GSK-1100

| | | |
|---|---|---|
| * Track System | : | 4 Track 2CH Stereo |
| * Tape Speed | : | 4.75cm/sec |
| * Wow & Flutter | : | 0.15% (WRMS) |
| * F.F/REW Time | : | 110 Sec (C-60) |
| * Frequency Response | | |
| METAL | : | 30-15000Hz |
| FeCr | : | 30-15000Hz |
| $CrO_2$ | : | 30-15000Hz |
| * Distortion | : | 1% (1kHz, OVU) |
| * S/N Ratio | | |
| DOLBY ON | : | 60dB |
| DOLBY OFF | : | 50dB |
| * Cross Talk | : | 60dB |
| * Channel Separation | : | 40dB |
| * Erase Ratio | : | 70dB |
| * Input Sensitivity | : | Mic : 2mV<br>Line : 100mV<br>Din : 0.1mV/K ohm |
| * Output Voltage | : | 1V |
| * Headphone Imp | : | 8-200 ohm |
| * Power Supply | : | See the back panel |
| * Semiconductor | : | 6IC, 48TR, 31LED, 31 DIODE, 3 RECTIFIER |
| * Weight | : | 6.1Kg |
| * Dimension | : | 342(W) x 158(H) x 282(D) m/m |

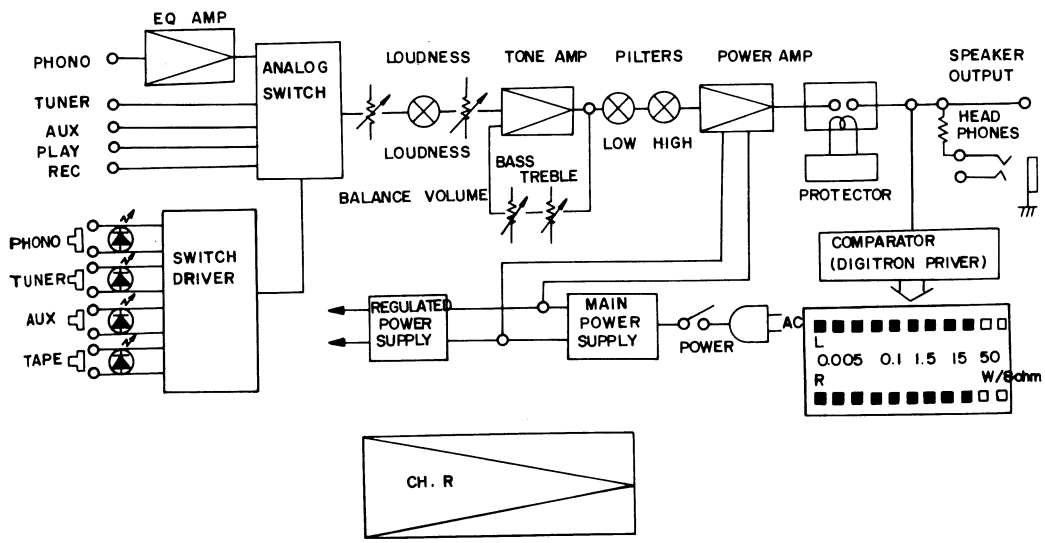
## GSA-6500

## CONTROLS



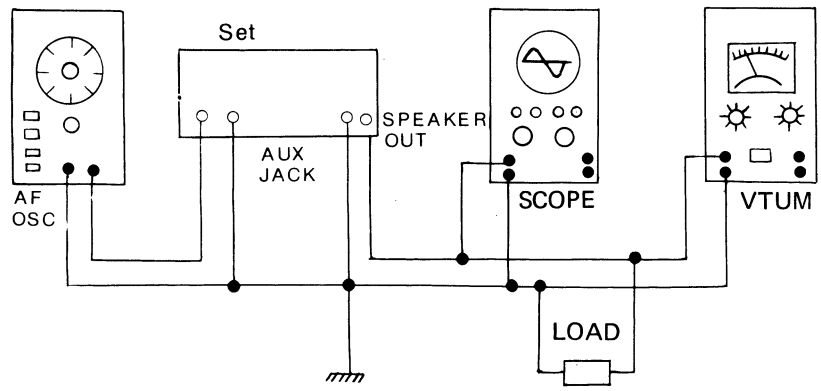

1. Power Switch
2. Balance Control Knob
3. Bass Control Knob
4. Treble Control Knob
5. Function Selection Buttons
6. Volume Adjusting Knob
7. Tape Button
8. Loudness Button
9. High Filter Button
10. Low Filter Button
11. Fluorescent Display
12. Headphone Jack

## BLOCK DIAGRAM



## ADJUSTMENT OF IDLING CURRENT

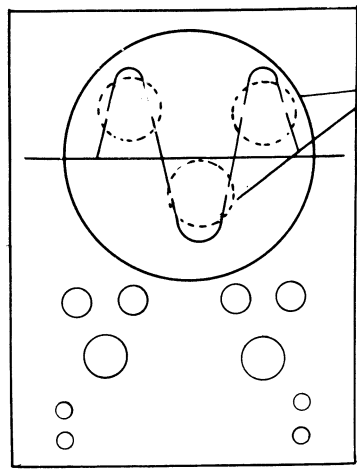
### 1) CONNECTION



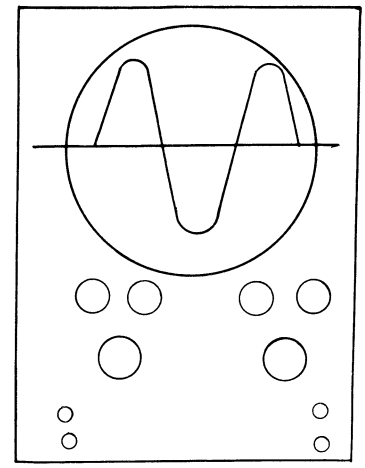

1. Set the FUNCTION selector to AUX position, VOLUME control to minimum and the other controls and/or switches – BALANCE, BASS, TAPE MONITOR etc to mid or OFF position.
2. Adjust the oscillator frequency to 1 kHz and output level to 150mV, then connect the output to the AUX input jacks both left & right channel.
3. Connect dummy loads which have 8 ohm non inductive resistance and with stand more than 30 watt power to the left & right speaker terminal.
4. Connect oscilloscope and VTVM across dummy loads.
5. Turn on the POWER switch and wait five or ten minutes for warm-up.
6. Up the VOLUME control slowly until the output power is around 1 watt (VTVM indicates 2.83 volt).
7. Change the oscillator frequency to 10 kHz.
8. Watching the oscilloscope adjust VR501 (left channel) and VR551 (right channel) until the crossover disappear. To find crossover easily, enlarge the wave form at the oscilloscope.
9. After that check the voltage drop across R516 or R517 (left channel) and R566 or R567 (right channel) is less than 10mV DC when no input signal.
10. If the voltage drop is more than 10mV, repeat step 8 and 9.
11. After finishing the adjustment fix the VR501 and VR551 using screw locking paint.

**note:**
When adjust VR501 and/or VR551, do not turn it to fully clockwise position. Sometimes it cause driver or power transistor burn out.

2) BEFORE ADJUSTMENT

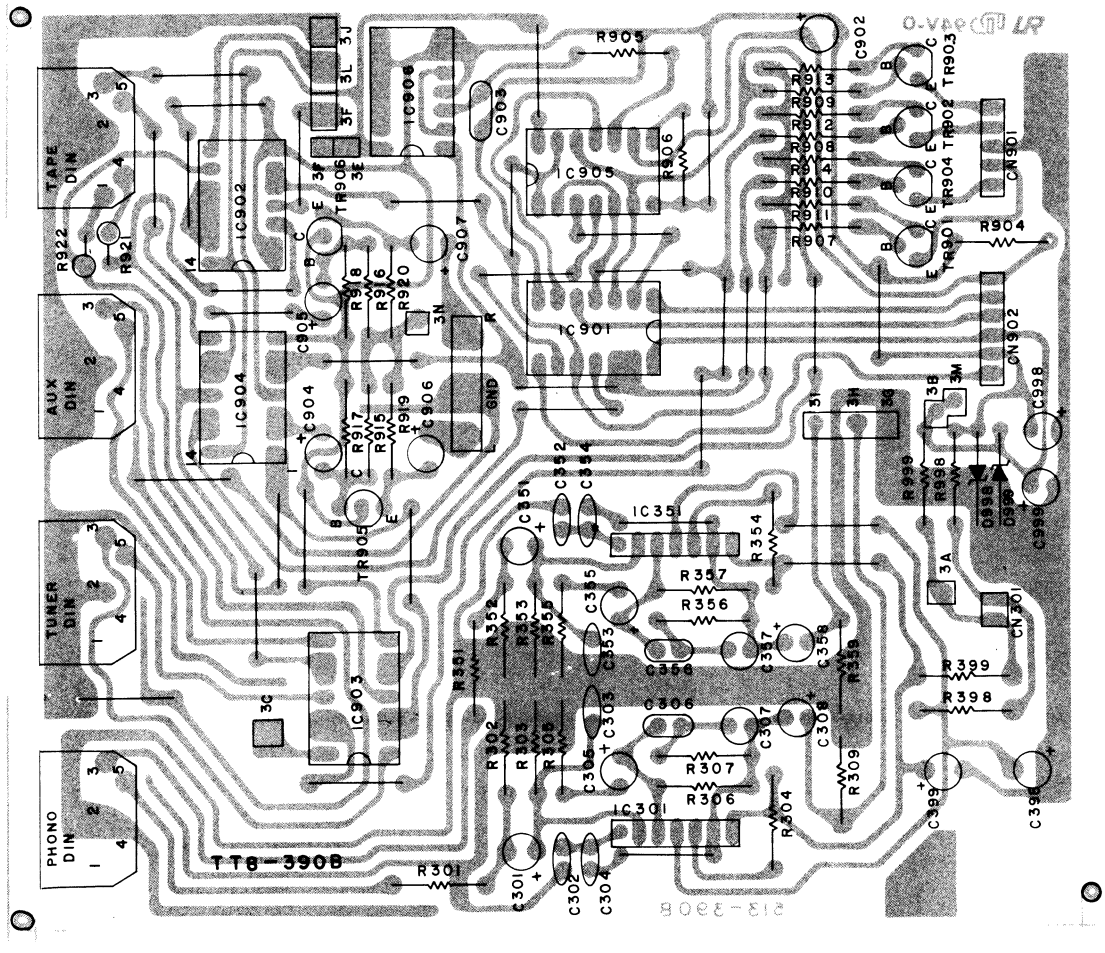



3) AFTER ADJUSTMENT

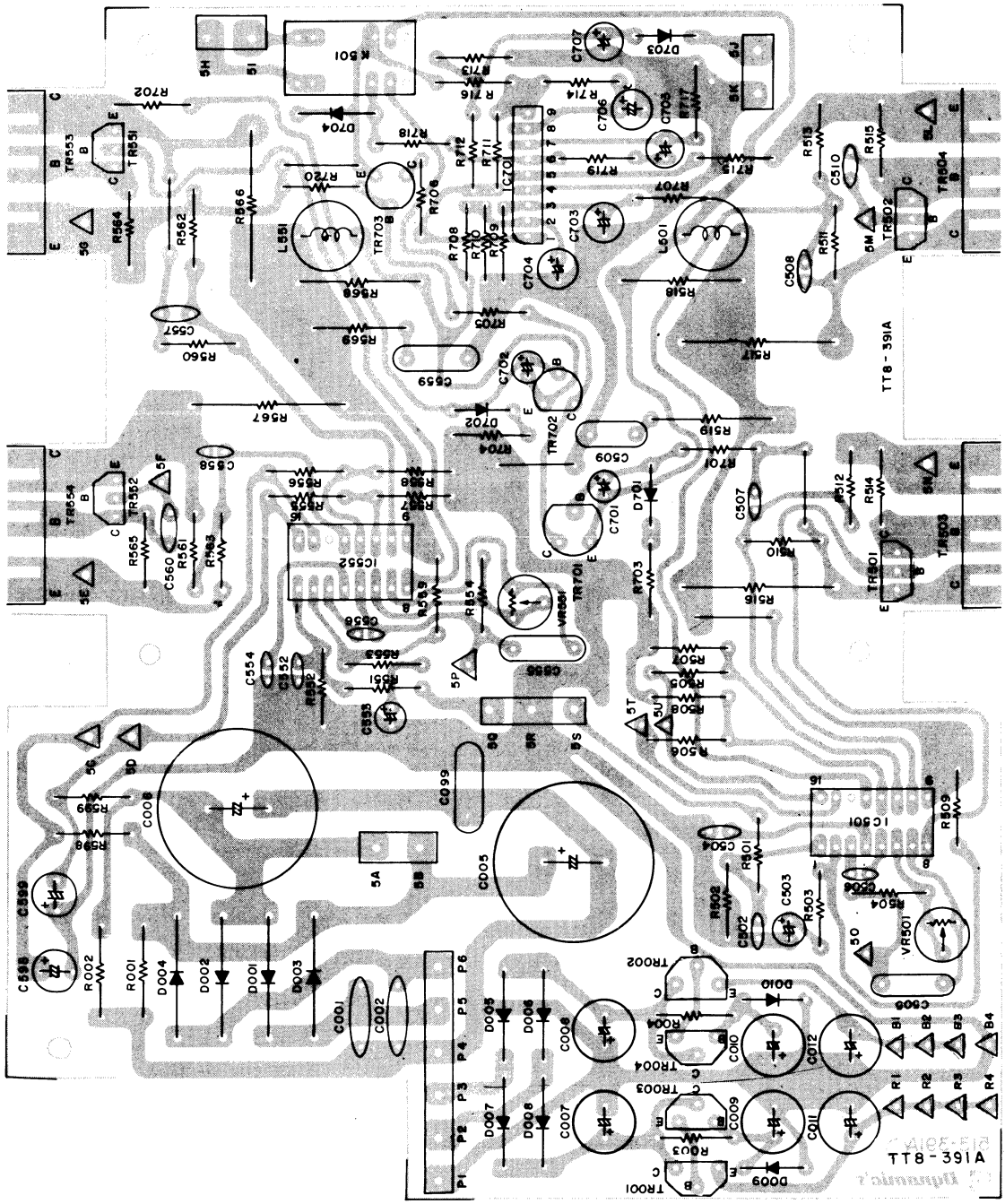


## PWB ASSEMBLY

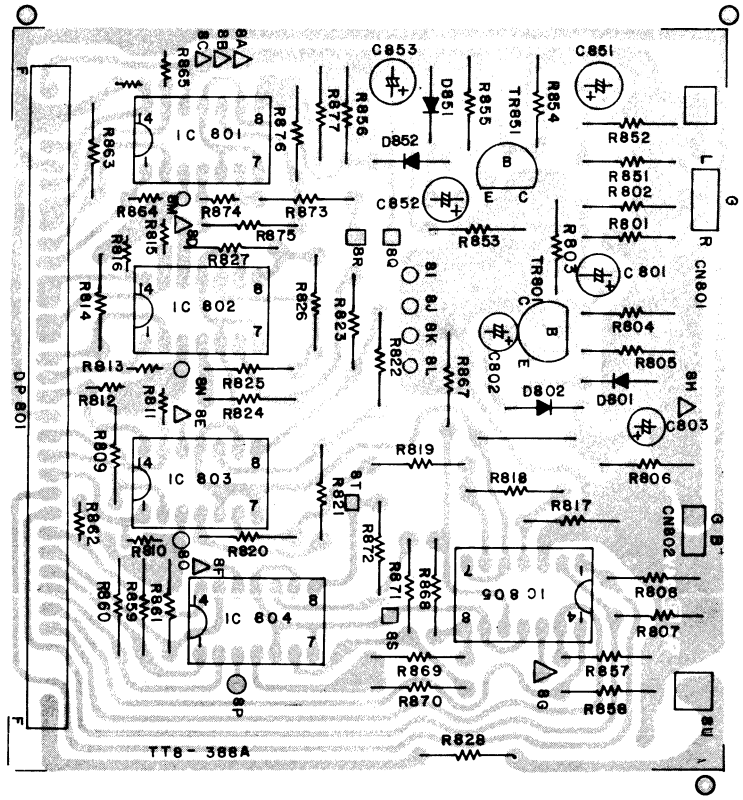
PWB AY. EQ AMP (511-390B)



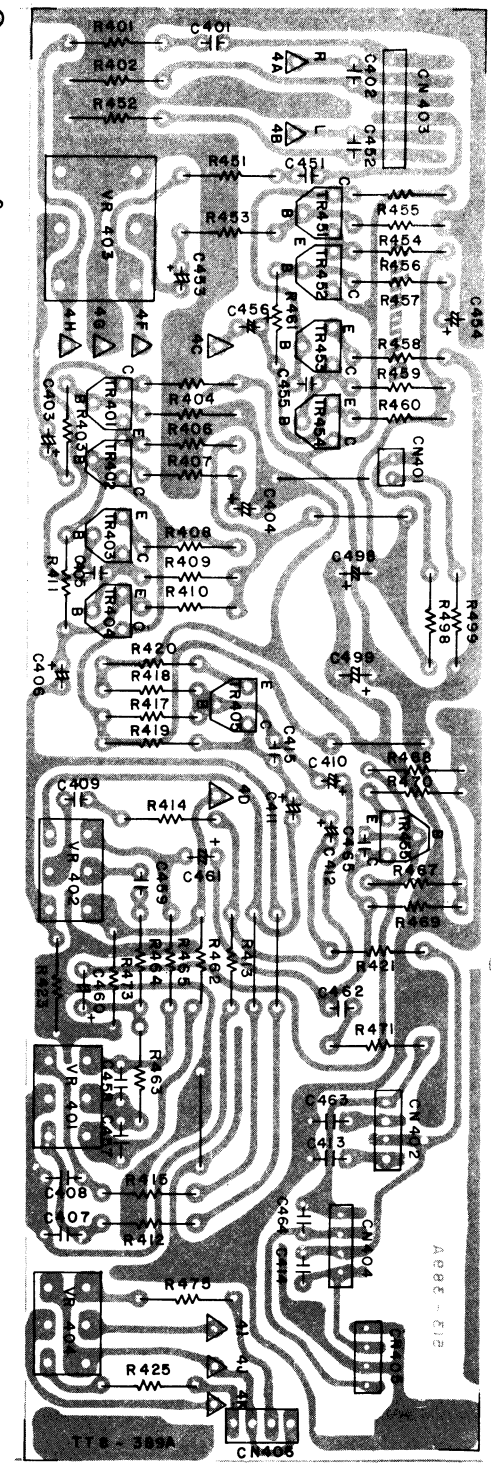
## PWB AY, MAIN AMP (511-391A)



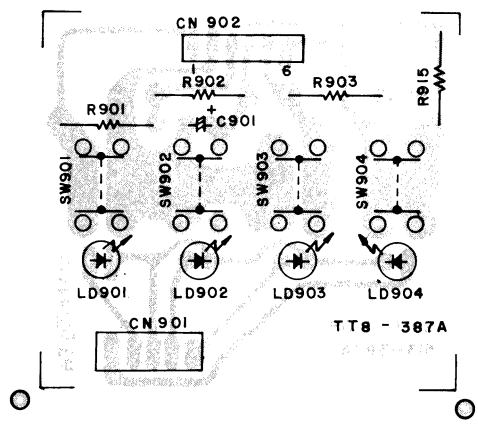
PWB AY, DISPLAY (511-388A)



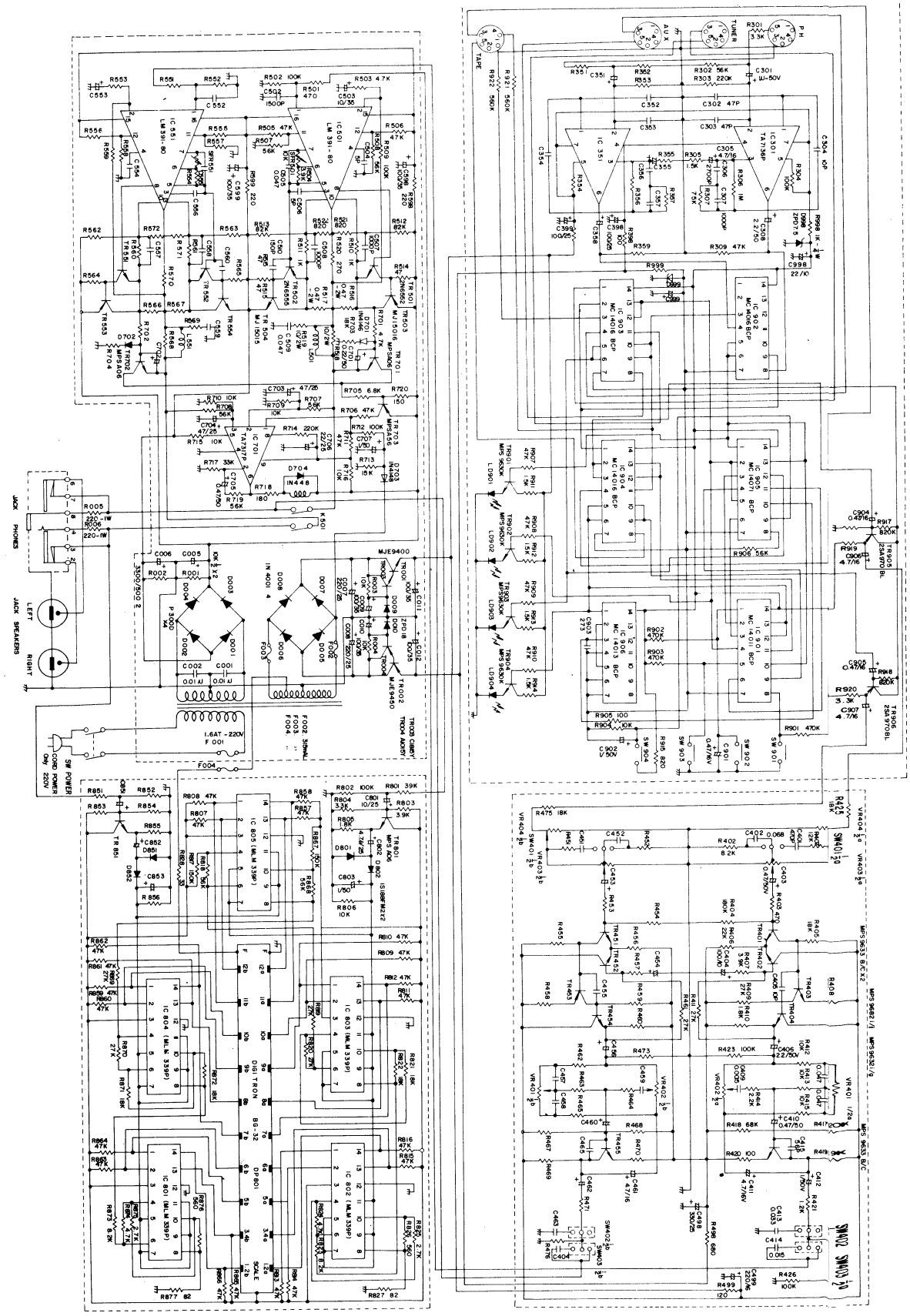

PWB AY, TONE AMP (511-389A)



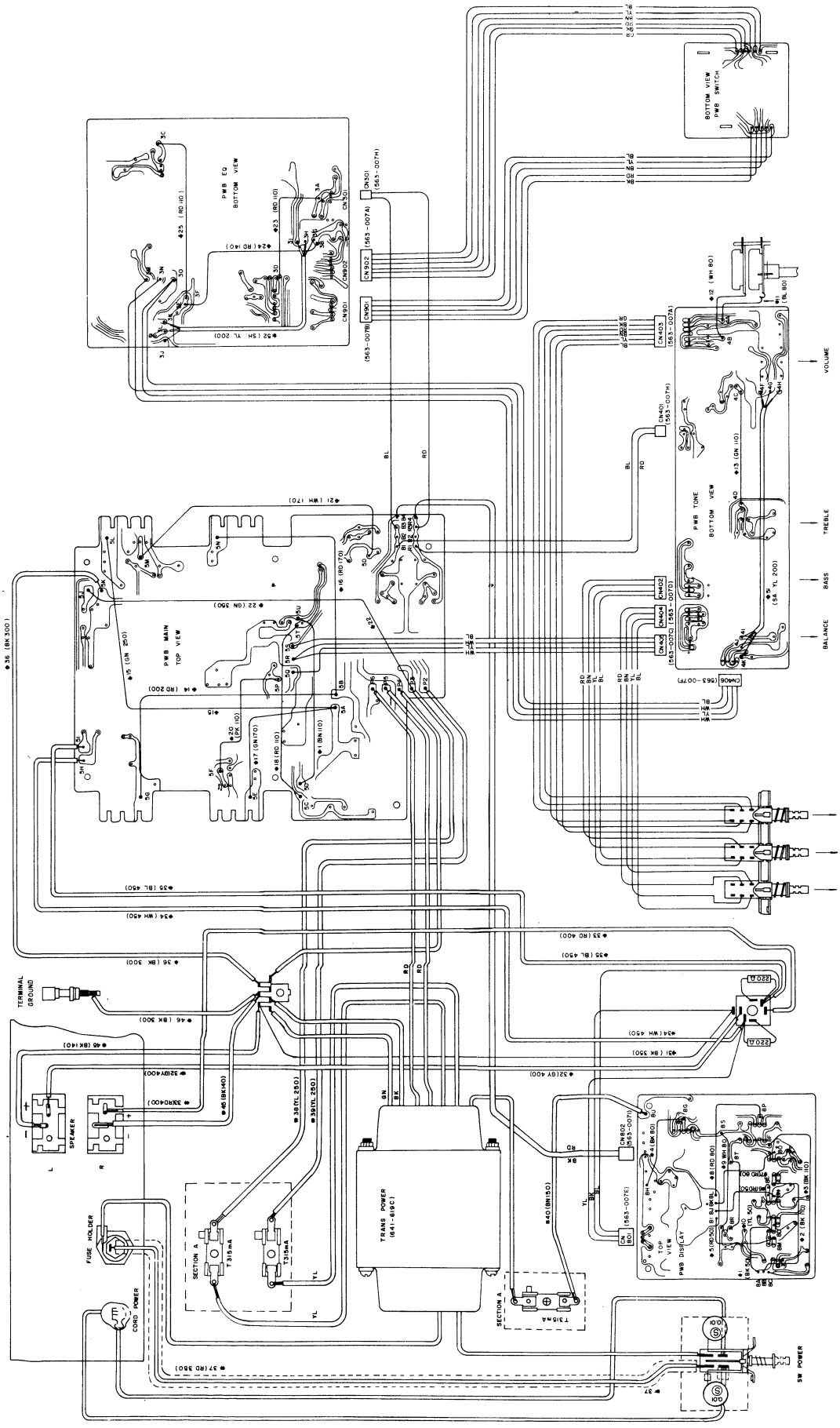

PWB AY, SWITCH (511-387A)



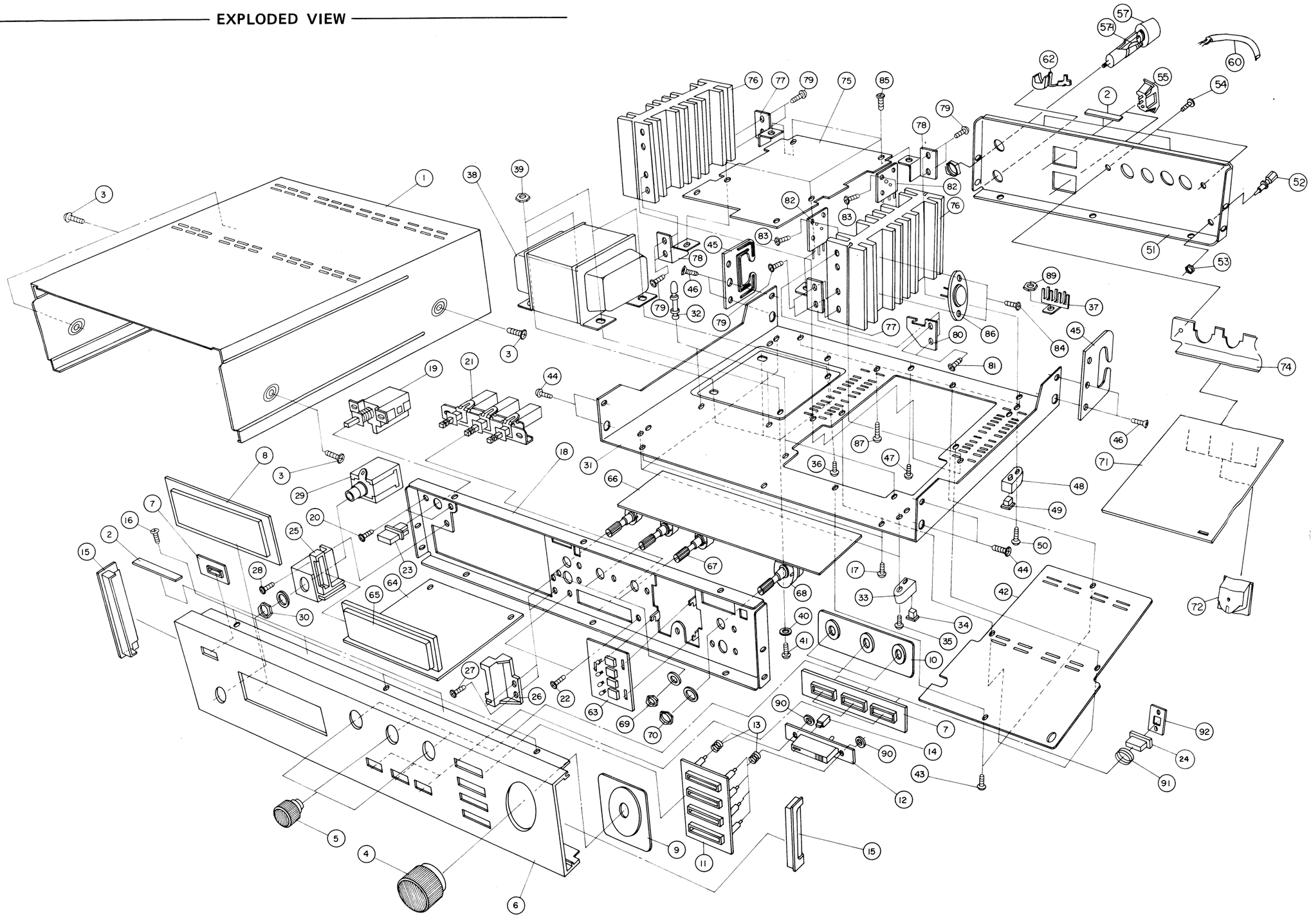
## SCHEMATIC DIAGRAM



## WIRING DIAGRAM



## EXPLODED VIEW



## MECHANICAL PARTS LIST

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 213-178A | CABINET |
| 2 | 472-604A | FELT |
| 3 | 353-052B | SCREW SPECIAL |
| 4 | 272-073A | KNOB VOLUME |
| 5 | 273-249A | KNOB CONTROL |
| 6 | 258-307B | PANEL FRONT |
| 7 | 341-121A | BUSHING PUSH KNOB |
| 8 | 236-115A | WINDOW |
| 9 | 246-021A | DECORATION KNOB |
| 10 | 246-020A | DECORATION PLATE |
| 11 | 341-118A | BUSHING FUNCTION KNOB |
| 12 | 273-235A | KNOB FUNCTION |
| 13 | 442-634D | SPRING COIL |
| 14 | 463-002A | LENS FUNCTION KNOB |
| 15 | 221-354A | COVER SIDE |
| 16 | TCQ1836J | SCREW TCQ 2 + 3 x 8 FZMY |
| 17 | TRR1836J | SCREW TRR 3 x 8 FZMY |
| 18 | 313-154B | CHASSIS FRONT |
| 19 | 554-610A | SW PUSH POWER |
| 20 | MRC1830J | SCREW MRC 3 x 6 FZMY |
| 21 | 554-606C | SW. UNI PUSH SUF 34 |
| 22 | MRC1830J | SCREW MRC 3 x 6 FZMY |
| 23 | 273-238B | KNOB PUSH |
| 24 | 273-238A | KNOB PUSH |
| 25 | 321-299A | BRACKET DIGITRONL |
| 26 | 321-300A | BRACKET DIGITRONR |
| 27 | TRR1836J | SCREW TRR 3 + 3 x 8 FZMY |
| 28 | TRR1830J | SCREW TRR 3 + 3 x 6 FZMY |
| 29 | 572-601A | JACK. HEAD PHONE |
| 30 | | HEXAGON NUT w/WASHER |
| 31 | 313-155B | CHASSIS MAIN |
| 32 | 321-303A | BRACKET PWB MAIN |
| 33 | 264-004A | LEG |
| 34 | 477-013A | RUBBER LEG |
| 35 | TRR1836J | SCREW TRR 3 + 3 x 8 FZMY |
| 36 | MRC1830J | SCREW MRL 3 + 3 x 6 FZMY |
| 37 | 563-056A | TERMINAL EARTHING |
| 38 | 641-619C | TRANS POWER |
| 39 | NHA2200J | NUT |
| 40 | WSB2600D | WASHER SPRING |



| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 41 | MRC2241J | SCREW MRC 4 x 12 |
| 42 | 221-358A | COVER PLATE |
| 43 | TRR1830J | SCREW TRR 3 x 6 FZMY |
| 44 | TRR1830J | SCREW TRR 3 + 3 x 6 FZMY |
| 45 | 445-052A | SPACER |
| 46 | TCQ1836J | SCREW TCQ 3 x 8 FZMY |
| 47 | TRR1830J | SCREW TRR 3 + 3 x 6 FZMY |
| 48 | 264-004A | LEG |
| 49 | 477-013A | RUBBER LEG |
| 50 | TRQ1843J | SCREW TRQ 3 x 14 |
| 51 | 258-362B | PANEL BACK |
| 52 | 563-606A | TERMINAL GROUND |
| 53 | | |
| 54 | TRQ1836I | SCREW TRQ 2 + 3 x 8 FBK |
| 55 | 573-607A | SOCKET DIN |
| 57-1 | 585-112C | FUSE 250V 1.6A |
| 57 | 586-107B | FUSE HOLDER |
| 58 | 552-050A | SLIDE SWITCH |
| 59 | MRC1822I | SCREW MRC 3 x 4 FBK |
| 60 | 681-003D | CORD POWER |
| 61 | 334-007A | STOPPER SWITCH |
| 62 | 324-348A | HOLDER CORD HEYCO |
| 63 | 511-387A | PWB AY SWITCH |
| 64 | 513-388A | PWB DISPLAY |
| 65 | 659-002A | DISPLAY FLUORESCENT BG32 |
| 66 | 513-389A | PWB TONE AMP |
| 67 | 611-612D | VR. |
| 68 | 611-069B | VR. |
| 69 | | |
| 70 | | |
| 71 | 513-390B | PWB EQ AMP |
| 72 | 573-051A | SOCKET, DIN |
| 73 | 573-062A | SOCKET |
| 74 | 321-483A | Bracket |
| 75 | 513-391A | PWB. MAIN AMP |
| 76 | 255-052A | PLATE HEAT SINK |
| 77 | 324-301A | HOLDER A (R) |
| 78 | 324-302A | HOLDER B (L) |
| 79 | TRQ1830J | SCREW TRQ 2 + 3 x 6 FZMY |
| 80 | 321-302A | BRACKET PWB EQ |
| 81 | TRQ1830J | SCREW TRQ 2 + 3 x 6 FZMY |
| 82 | 573-050A | SOCKET AY TR |
| 83 | TRQ1836J | SCREW TRQ 2 + 3 x 8 FZMY |
| 84 | MRC1843J | SCREW MRC 3 x 14 FZMY |

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 85 | TRR1830J | SCREW TRR 3 + 3 x 6 FZMY |
| 86 | 665-806A | TRANSISTOR |
| | 665-807A | TRANSISTOR |
| 87 | TRQ1843J | SCREW TRQ 2 + 3 x 14 FZMY |
| 88 | | |
| 89 | NHA1800D | NUT |
| 90 | WPL1500J | WASHER APL-2.6 |
| 91 | 442-634E | SPRING COIL |
| 92 | 384-043A | GUIDE KNOB |

## ELECTRICAL PARTS LIST

### PWB AY, DISPLAY (511-388A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| DP801 | 659-002A | DISPLAY, FLUORESCENT BG-32 |
| IC801, 802, 803, 804, 805 | 608-045A | IC, MLM 339P. (COMPARATOR) |
| TR801, 851 | 662-603B | TRANSISTOR, FAIR-MOTOR, MPSA06 |
| D801, 802, 851, 852 | 651-020A | DIODE 1S188FM-2 |
| C801, 851 | CE106D01 | ELECTROLYTIC 10MF 26V |
| C802, 852 | CE475D01 | C. ELECTROLYTIC 4.7MF 25V |
| C803, 853 | CE105F01 | " 1MF 50V |
| R825, 26, 27, 77 | RD271J09 | R. CARBON FILM 270-J¼WM |
| R824 | RD153J09 | " 15K-J¼WM |
| R826, 876 | RD561J09 | " 560-J¼WM |
| R805, 855 | RD182J09 | " 1.8K-J¼WM |
| R804, 854 | RD332J09 | " 3.3K-J¼WM |
| R801, 851, 803, 853 | RD392J09 | " 3.9K-J¼WM |
| R822, 872, 806, 856 | RD103J09 | " 10K-J¼WM |
| R823, 873 | RD123J09 | " 12K-J¼WM |
| R874 | RD153J02 | " 15K-J¼WM |
| R821, 71 | RD273J09 | " 27K-J¼WM |
| R820, 870 | RD393J09 | " 39K-J¼WM |
| R819, 869 | RD563J09 | " 56K-J¼WM |
| R818, 868 | RD124J09 | " 120K-J¼WM |
| R802, 852 | RD104J09 | " 100K-J¼WM |
| R807, 08, 09, 14, 57, 58, 59 60, 61, 63 | RD473J09 | " 47K-J¼WM |
| R817, 867 | RD683J09 | " 68K-J¼WM |
| R810, 11, 12, 13, 15, 16, 62 64, 65, 66 | RD473J02 | " 47K-J¼WM |
| R828 | RD330J09 | " 33-J¼WM |
| CN801 | 561-008A | CONNECTOR MALE(3P) |
| CN802 | 561-008B | CONNECTOR MALE(2P) |

## PWB AY, TONE AMP (511-389A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| VR403 | 611-069B | VR, R GJ70E-100KB x 2 L(30KQ) |
| VR401, 402 | 611-612D | VR, R GM70E-100KB x 2 30KQ(11C) |
| VR404 | 611-611B | VR, R GM70R-250KMN 30KQ(C,C) |
| TR401, 402, 451, 452, 405 455 | 662-026B,C | MPS9633B,C, TR MOTOROLA |
| TR403, 453 | 662-605D,E | MPS9682i, J, " |
| TR404, 454 | 662-034D,E | MPS9632i, J, " |
| C412, 462 | CE105C01 | C, ELECTROLYTIC 1MF 16V |
| C411, 461 | CE475C01 | " 4.7MF-16V |
| C404, 454 | CE107B01 | " 100MF-10V |
| C499, 498 | CE337D01 | " 330MF-25V |
| C405, 455 | CC100K01 | C. CERAMIC CC 10PF-K SL 50V |
| C415, 465 | CC560K01 | C. CERAMIC CC 56PF-K SL 50V |
| C409, 459 | CQ222J01 | C. POLYESTER 0.0022MF-J 50V |
| C407, 408, 457, 458 | CQ473J01 | C. POLYESTER 0.047MF-J 50V |
| C414, 464 | CQ153J01 | C. POLYESTER 0.015MF-J 50V |
| C413, 463 | CQ333J01 | C. POLYESTER 0.033MF-J 50V |
| C401, 451 | CY471J01 | C. POLYSTYROL 470PF-J R |
| C402, 452 | CQ683M01 | C. POLYESTER 0.068MF 50V |
| R408, 458 | RD101J09 | R. CARBON FILM 100-J¼WM |
| R403, 454 | RD471J09 | R. CARBON FILM 470-J¼WM |
| R421, 71 | RD122J09 | R. CARBON FILM 1.2K-J¼WM |
| R410, 460 | RD182J09 | R. CARBON FILM 1.8K-J¼WM |
| R414, 64 | RD222J09 | R. CARBON FILM 2.2K-J¼WM |
| R407, 57 | RD681J09 | R. CARBON FILM 680-J¼WM |
| R419, 69, 07, 57 | RD392J09 | R. CARBON FILM 3.9K-J¼WM |
| R402, 52 | RD822J09 | R. CARBON FILM 8.2K-J¼WM |
| R412, 13, 15, 62, 63, 65 | RD103J09 | R. CARBON FILM 10K-J¼WM |
| R401, 51 | RD123J09 | R. CARBON FILM 12K-J¼WM |
| R405, 55, 25, 75 | RD183J09 | R. CARBON FILM 18K-J¼WM |
| R405, 56 | RD223J09 | R. CARBON FILM 22K-J¼WM |
| R409, 59, 11, 61 | RD273J09 | R. CARBON FILM 27K-J¼WM |
| R418, 68 | RD563J09 | R. CARBON FILM 56K-J¼WM |
| R423, 473 | RD104J09 | R. CARBON FILM 100K-J¼WM |
| R404, 454 | RD184J09 | R. CARBON FILM 180K-J¼WM |
| R417, 67 | RD824J09 | R. CARBON FILM 820K-J¼WM |
| CN401 | 561-011A | CONNECTOR MALE(2P) |
| CN404, 405 | 561-011B | CONNECTOR MALE(4P) |
| CN403 | 561-011D | CONNECTOR MALE(6P) |
| C403, 53, 10, 60 | CE474F01 | C. ELECTROLYTIC 0.47MF 50V |
| C406, 56 | CE225D01 | C. ELECTROLYTIC 2.2MF 25V |
| R499 | RD391J09 | R. CARBON FILM 390-J¼WM |
| R420, 470 | RD683J09 | R. CARBON FILM 68K-J¼WM |

## PWB AY, EQ AMP (511-3908)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| IC901 | 668-046A | IC, MC 14011 BCP(NAND GATE) |
| IC902, 903, 904 | 668-047A | IC, MC 14016 BCP ANALOG SWITCH |
| IC301, 351 | 668-049A | IC, KIA7136P (AUDIO PRE) |
| TR901, 902, 903, 904 | 662-024F | MPS9630K, TR MOTOROLA |
| IC906 | 668-057A | IC, MC14013BCP (D FILP FLOP) |
| IC905 | 668-058A | IC, MC14071BCP (OR GATE) |
| D998 | 654-608E | DIODE, ZENER ZPD7.5 ITT |
| C902, 903 | CE224F01 | C. ELECTROLYTIC 0.22MF-50V |
| C308, 58 | CE225D01 | C. ELECTROLYTIC 2.2MF 25V |
| C301, 51, 902 | CE105D01 | C. ELECTROLYTIC 1MF 25V |
| C398, 99 | CE107D01 | C. ELECTROLYTIC 100MF-25V |
| C306, 356 | CQ272J01 | C. POLYESTER 0.0027MF-J 50V |
| C307, 57 | CY102J01 | C. POLYSTYROL 1000PF-JR |
| C304, 54 | CC100K01 | C. CERAMIC CC 10pF-K SL 50V |
| C302, 03, 52, 53 | CC470K01 | C. CERAMIC CC 47pF-K SL 50V |
| C305, 355 | CE476C01 | C. ELECTROLYTIC 47MF 16V |
| R998, 999 | RD102J09 | R. CARBON FILM 1K-J¼WM |
| R301, 51 | RD332J09 | R. CARBON FILM 3.3K-J¼WM |
| R904 | RD103J09 | R. CARBON FILM 10K-J¼WM |
| R907, 08, 09, 10, 309, 359 | RD473J09 | R. CARBON FILM 47K-J¼WM |
| R302, 52, 906 | RD563J09 | R. CARBON FILM 56K-J¼WM |
| R307, 52, | RD753J09 | R. CARBON FILM 75K-J¼WM |
| R304, 54 | RD104J09 | R. CARBON FILM 100K-J¼WM |
| R303, 53 | RD224J09 | R. CARBON FILM 220K-J¼WM |
| C903 | CQ273J01 | C. POLYESTER 0.027MF-J 50V |
| R306, 56 | RD105J09 | R. CARBON FILM 1M-J¼WM |
| R305, 355, 911, 912, 913 914 | RD152J09 | R. CARBON FILM 1.5K-J¼WM |
| R398, 399, 905 | RD101J09 | R. CARBON FILM 100-J¼WM |
| CN901, 902 | 561-011C | CONNECTOR MALE (5P) |
| CN301 | 561-011A | CONNECTOR MALE (2P) |
| CN302 | 563-007F | CONNECTOR AY MOLEX (2P) |
| CN902 | 561-011D | CONNECTOR MALE (6P) |
| | CE226B01 | C. ELECTROLYTIC 22MF 10V |
| TR905, 906 | 665-818B | TR, KEC KTA970-BL |
| C904, 905 | CE474C01 | C, ELECTROLYTIC 0.47MF 16V |
| C906, 907 | CE475C01 | " 4.7MF 16V |
| R917, 918 | RD824J09 | R, CARBON FILM 820K-J¼WM |
| R919, 920 | RD332J09 | " 3.3K-J¼WM |
| R921, 922 | RD564J02 | " 560K-J¼WM |

## PWB AY, MAIN AMP (511-391A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 24V DC, K501 | 557-003A | A RELAY, HB2-DC24V |
| 24V DC, K501 | 557-005A | RELAY ORIGINAL OUB DC-24V DPDT |
| IC501, 551 | 668-048A | IC, LM391-80 (AUDIO DRIVER) |
| IC701 | 668-050A | IC TA7137P |
| TR504, 554 | 665-806A | MJ15015, TR MOTOROLA |
| TR503, 553 | 665-807A | MJ15016, TR MOTOROLA |
| TR501, 551 | 665-809B | 2N 6552, TR MOTOROLA |
| TR502, 552 | 665-810B | 2N 6555, TR MOTOROLA |
| TR701, 702 | 662-603B | MPSA06, TR MOTOROLA |
| TR703 | 662-043B | MPSA56, TR MOTOROLA |
| TR001 | 662-018A | MJE9400, TR MOTOROLA |
| TR002 | 662-018B | MJE9450, TR MOTOROLA |
| TR003 | 665-813B | TR, TOSHIBA, 2SA-1015-Y |
| D009, 010 | 654-607D | DIODE, ZENER, ZPD-18, ITT |
| D701, 702, 703, 704 | 652-603A | DIODE, SWITCHING, IN4148, ITT |
| D001, 002, 003, 004 | 652-010C | DIODE, RECTIFIER P300D GI |
| | 652-607A | DIODE, RECTIFIER, IN5402 MICRO |
| D005, 006, 007, 008 | 652-005A | DIODE, RECTIFIER IN4001 |
| C005, 006 | CE338E14 | C' ELECTRO 3300M-35V TSL-SELF |
| C009, 010, 011, 012, 598, 599 | CE107E01 | C. ELECTROLYTIC 100MF 35V |
| C007, 008 | CE227D01 | C. ELECTROLYTIC 220MF 25V |
| C503, 553 | CE106E01 | C. ELECTROLYTIC 10MF-35V |
| C704, 703 | CE476D01 | C. ELECTROLYTIC 47MF-25V |
| D706 | CE226D01 | C. ELECTROLYTIC 25V-22MF |
| TR004 | 665-812B | TR, TOSHIBA, 2SC-1815-Y |
| C707 | CE105E01 | C. ELECTROLYTIC 1MF 35V |
| C705 | CE474E01 | C. ELECTROLYTIC 0.47MF 35V |
| C701, 702 | CE224F01 | C. ELECTROLYTIC 0.22MF-50V |
| C505, 555, 09, 59 | CQ473M01 | C. POLYESTER 0.04MF M 50V |
| C504, 554, 506, 556 | CC050C06 | C. CERAMIC CC 5pF-C CH 50V |
| C502, 552 | CK152Z02 | C. CERAMIC CK 0.0015M-Z 50V |
| C507, 57, 08, 58 | CK102Z02 | C. CERAMIC CK 1000pF-Z 50V |
| C001, 002 | CK103P03 | C. CERAMIC CK 0.01MF-P 500V |
| SFR501, 551 | 613-002F | VR, SEMI-FIXED SR19R-10KB 10D |
| R516, 17, 66, 67 | RNR47J07 | R. METAL FILM 0.47J2WP |
| R519, 569 | RN2R2J05 | R. METAL FILM 2.2-J1WP |
| R518, 68 | RS100J07 | R. METAL OXIDE 10-J2WP |

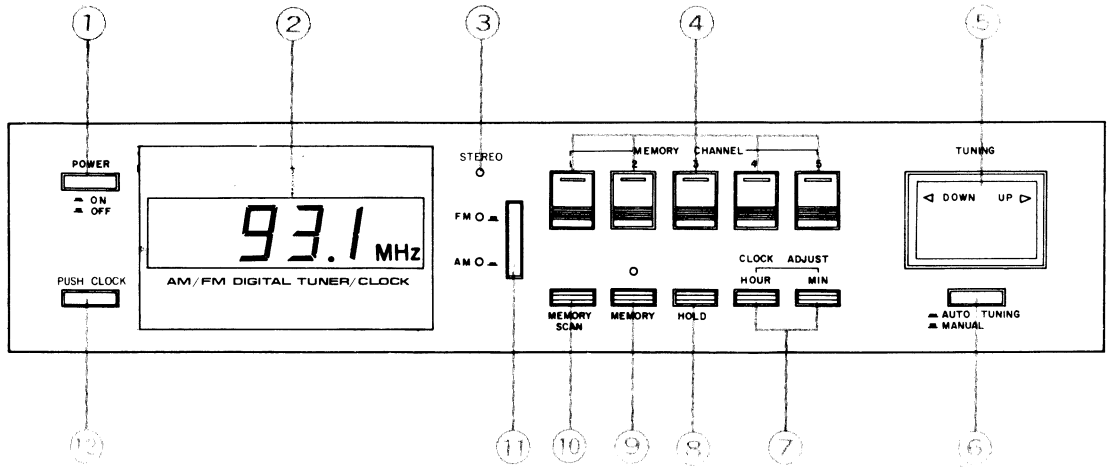
| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| C510, 60 | CC470J06 | C. CERAMIC CC 47pF-JCH 50V |
| R515, 14, 65, 64 | RN470J19 | R. METAL FILM 47-J½WM |
| R720, 598, 599 | RD151J09 | R. CARBON FILM 150-J¼WM |
| R718 | RD181J09 | " 180-J¼WM |
| R501, 551 | RD471J09 | " 470-J¼WM |
| R510, 11, 60, 61 | RD102J09 | " 1K-J¼WM |
| R701, 02 | RD222J09 | " 2.2K-J¼WM |
| R504, 54 | RD392J09 | " 3.9K-J¼WM |
| R503, 53 | RD472J09 | " 4.7K-J¼WM |
| R705 | RD682J09 | " 6.8K-J¼WM |
| R001, 002 | RD103J03 | " 210K-J½WM |
| R715, 716, 003, 004 | RD103J09 | " 10K-J¼WM |
| R713 | RD153J09 | " 15K-J¼WM |
| R703, 704 | RD183J09 | " 18K-J¼WM |
| R717 | RD333J09 | " 33K-J¼WM |
| R706, 711, 555, 56, 05, 06 | RD473I09 | " 47K-J¼WM |
| R507, 08, 57, 58, 707, 08 09, 10, 19 | RD563J09 | " 56K-J¼WM |
| R512, 13, 62, 63 | RD823J09 | " 82K-J¼WM |
| R509, 559, 502, 52, 712 | RD104J09 | " 100K-J¼WM |
| R714 | RD224J09 | " 220K-J¼WM |
| L501, 551 | 636-603B | COIL CHOKE |
| CN406, 301, 302 | 563-007H | CONNECTOR AY MOLEX 2P |
| CN501 | 563-007C | CONNECTOR AY MOLEX 4P |
| CN802 | 563-007I | CONNECTOR AY MOLEX 2P |
| | 564-022A | PLUG AY 12 PIN |

## PWB AY, SWITCH (511-387A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| SW901, 902, 903, 904 | 558-001A | SW, SOFT TOUCH |
| LD901, 902, 903, 904 | 653-604A | LED, SIEMENS, LD30A, RD, DIFFUSED |
| R901, 902, 903 | RD474K09 | R. CARBON FILM 470K-K¼WM |
| R915 | RD821K09 | R. CARBON FILM 820-K¼WM |
| CN901 | 563-007B | CONNECTOR AY MOLEX (5P) |
| | CE474D01 | C. ELECTROLYTIC 0.47MF 25V |
| CN902 | 563-007A | CONNECTOR AY MOLEX (6P) |

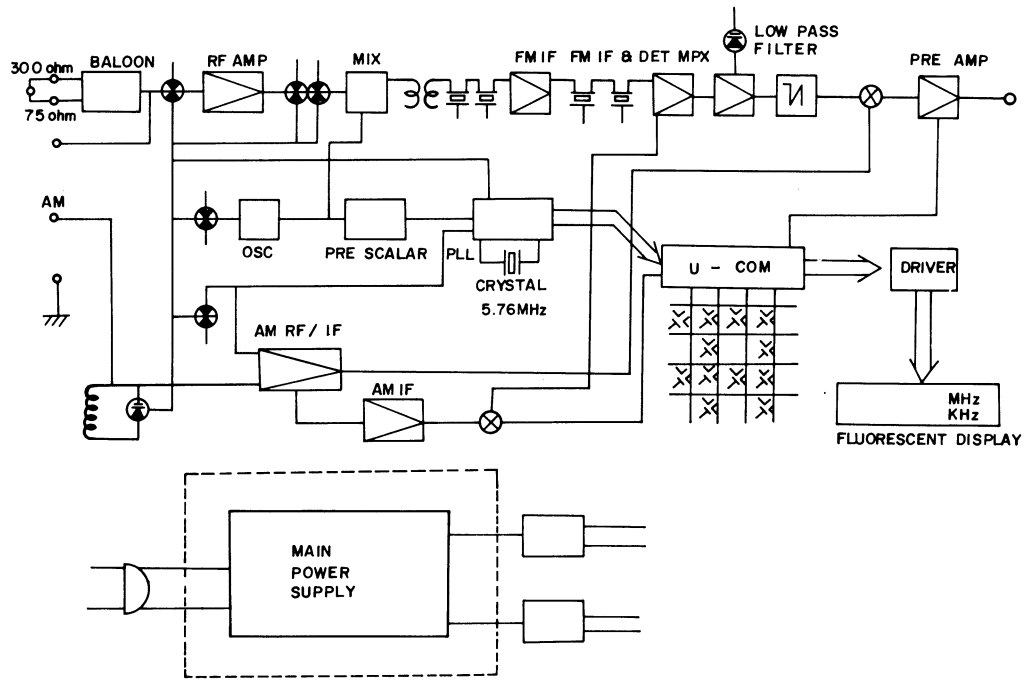
## GST-2000

## CONTROLS



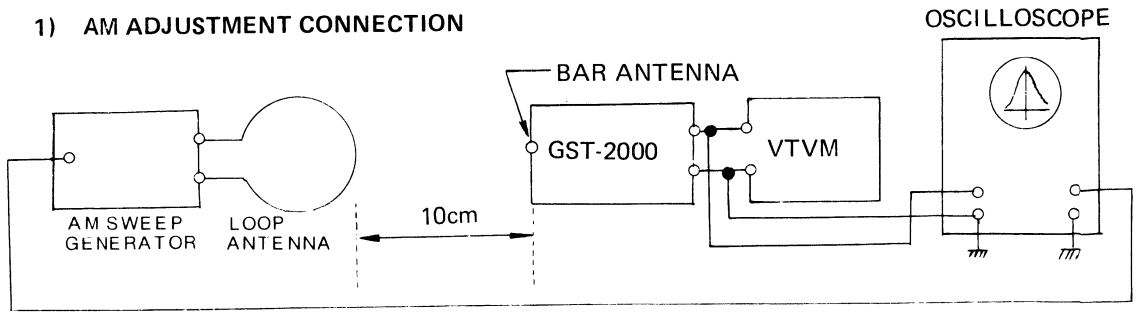

1. Power Switch
2. Fluorescent Display
3. Stereo Indicator
4. Memory Channel Button
5. Tuning Button
6. Auto/Manual Select Button
7. Clock Adjust Button
8. Hold Button
9. Memory Button
10. Memory Scan Button
11. Radio Band Select Button
12. Clock Indication Button

## BLOCK DIAGRAM



## ADJUSTMENT OF AM/FM

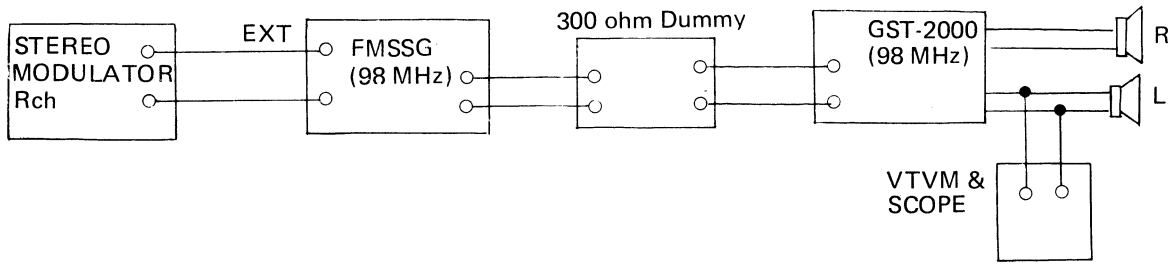
### 1) AM ADJUSTMENT CONNECTION




### 2) AM ADJUSTMENT CHART

| BAND | STEP | INSTRUMENT & FREQUENCY | TEST POINT | RADIO DIAL SETTING | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|
| IF | 1 | IF GENESCOPE 460 kHz | GENESCOPE input: TP102 (R115) | TUNING GANG FULLY CLOCKWISE HIGHEST FREQUENCY | T101, T102 | ADJUST FOR MAXIMUM INDICATION |
| COVER RANGE | 2 | SIGNAL GENERATOR 531 kHz | 4A, 4C (R407, R457) | TUNING GANG FULLY COUNTER CLOCKWISE LOWER FREQUENCY | L102 | ADJUST FOR MAXIMUM INDICATION |
| | 3 | SIGNAL GENERATOR 1602 kHz | 4A, 4C (R407, R457) | TUNING GANG FULLY CLOCKWISE HIGHEST FREQUENCY | TC102 | ADJUST FOR MAXIMUM INDICATION |
| | 4 | REPEAT STEPS 2 AND 3 AS REQUIRED | | | | |
| TRACKING | 5 | SIGNAL GENERATOR 600 kHz | 4A, 4C (R407, R457) | TUNE TO SIGNAL | AM ANT COIL | ADJUST FOR MAXIMUM INDICATION |
| | 6 | SIGNAL GENERATOR 1400 kHz | 4A, 4C (R407, R457) | TUNE TO SIGNAL | TC101 | ADJUST FOR MAXIMUM INDICATION |
| | 7 | REPEAT STEPS 5 AND 6 AS REQUIRED | | | | |
| SEARCH STOP LEVEL | 8 | SIGNAL GENERATOR 999 kHz | DC VOLTMETER across SFR 102 | TUNE TO SIGNAL | T103 | ADJUST FOR MAXIMUM INDICATION |
| | 9 | SIGNAL GENERATOR 999 kHz input: 5mV/m | DC VOLTMETER TP204 (D844 or D845) | TUNE TO SIGNAL | SFR102 | ADJUST FOR 4-4.5V |

### 3) FM ADJUSTMENT CONNECTION



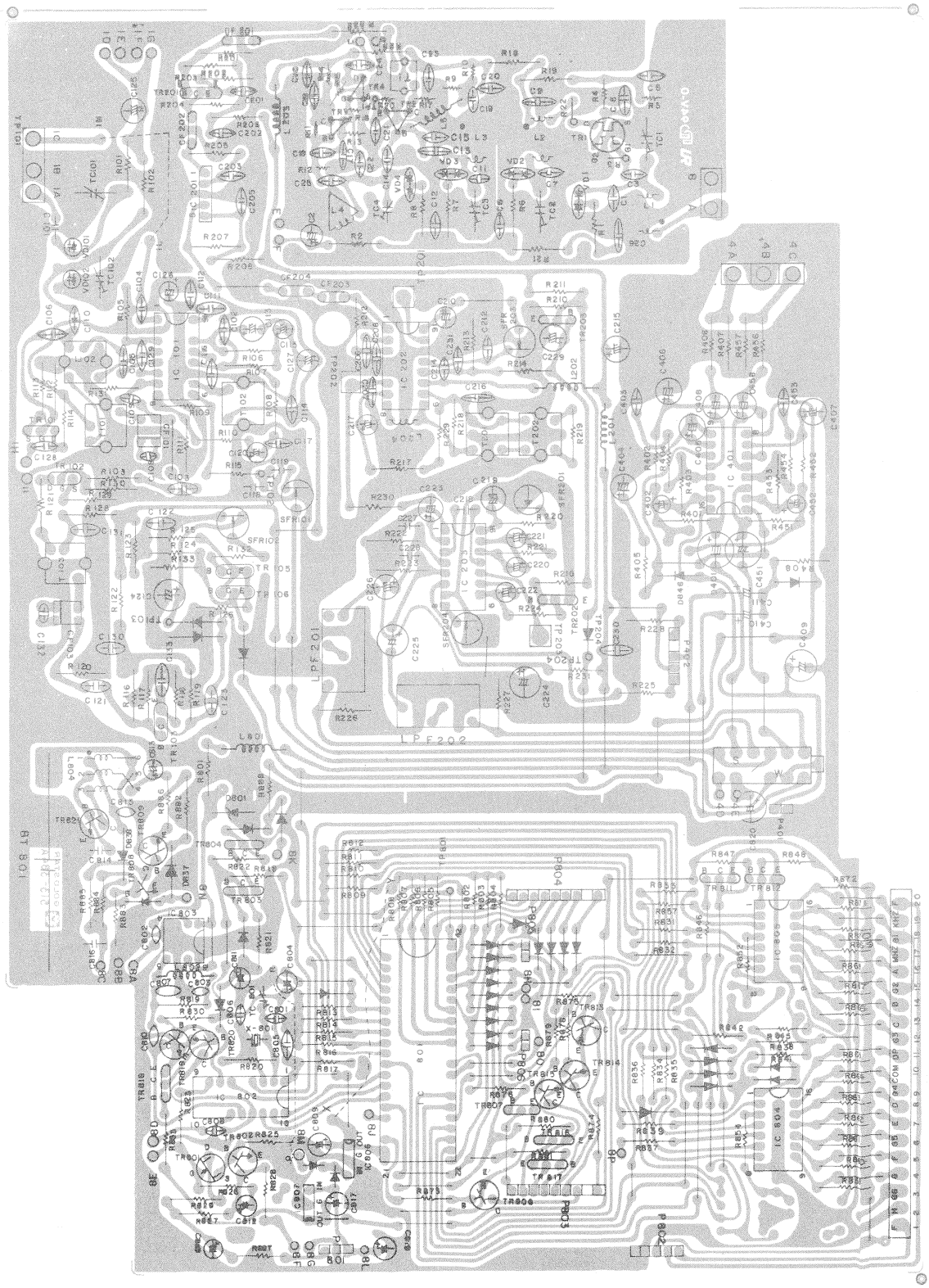

### 4) FM ADJUSTMENT CHART

| BAND | STEP | INSTRUMENT & FREQUENCY | TEST POINT | RADIO DIAL SETTING | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|
| IF | 1 | GENESCOPE 10.7 MHz | GENESCOPE output : R20 input : TP202 | TUNING GANG FULLY CLOCKWISE HIGHEST FREQUENCY | | DETUNE |
| | | | | | T1, T201 | SYMMETRICAL "S" CURVE CENTERED AT 10.7 MHz |
| | | | | | T202 | "S" CURVE LINEARITY |
| COVER RANGE | 2 | SIGNAL GENERATOR 87.5 MHz | 4A, 4C (R407, R457) | TUNING GANG FULLY COUNTER CLOCKWISE LOWEST FREQUENCY | L4 | ADJUST FOR MAXIMUM INDICATION |
| | 3 | SIGNAL GENERATOR 108 MHz | 4A, 4C (407, R457) | TUNING GANG FULLY CLOCKWISE HIGHEST FREQUENCY | TC4 | ADJUST FOR MAXIMUM INDICATION |
| | 4 | REPEAT STEPS 2 AND 3 AS REQUIRED | | | | |
| TRACKING | 5 | SIGNAL GENERATOR 90 MHz | 4A, 4C (R407, R457) | TUNE TO SIGNAL | L1, L2, L3 | ADJUST FOR MAXIMUM INDICATION |
| | 6 | SIGNAL GENERATOR 106 MHz | 4A, 4C (R407, R457) | TUNE TO SIGNAL | TC1, TC2, TC3 | ADJUST FOR MAXIMUM INDICATION |
| | 7 | REPEAT STEPS 5 AND 6 AS REQUIRED | | | | |

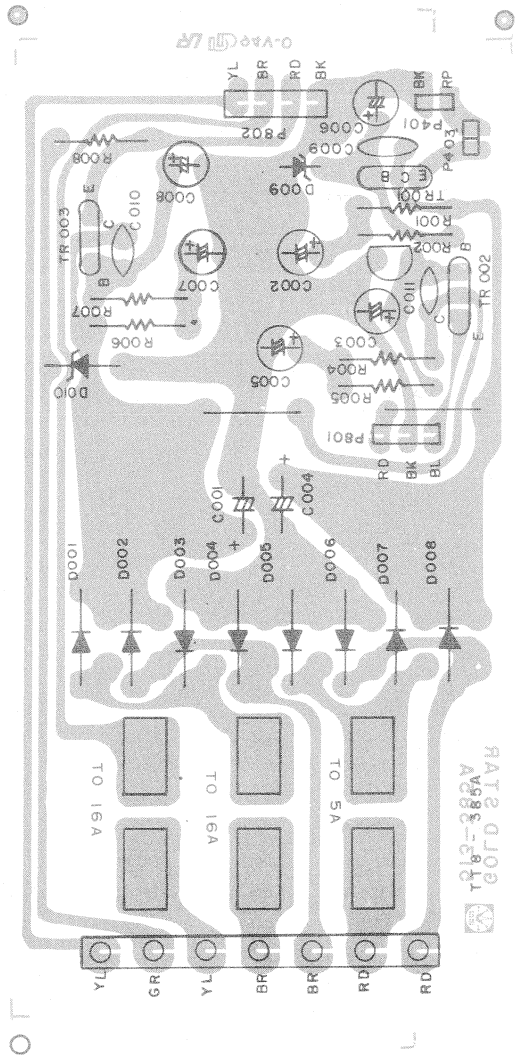
## 5) FM SEARCH STOP LEVEL & MPX ADJUSTMENT CHART

| BAND | STEP | INSTRUMENT & FREQUENCY | TEST POINT | RADIO DIAL SETTING | ADJUSTMENT | REMARKS |
|---|---|---|---|---|---|---|
| SEARCH STOP LEVEL | 1 | SIGNAL GENERATOR 98 MHz input: 15uV | DC VOLTMETER TP204 (D844 or D845) | TUNE TO SIGNAL | SFR203 | ADJUST FOR 4-4.5V |
| DISTORTION | 2 | SIGNAL GENERATOR 98 MHz input: 1mV | DC MILLI VOLTMETER across R217 | " | T201 | ADJUST FOR ZERO VOLT |
| | | | DISTORTION METER 4A, 4C (R407, R457) | " | T202 | ADJUST FOR MINIMUM DISTORTION |
| MPX | 3 | | FREQ. COUNTER TP203 (IC203 pin 12) | NO INPUT SIGNAL | SFR201 | ADJUST FOR FREQUENCY 19 kHz |
| | 4 | FM STEREO S.G. 98 MHz input: 1mV | 4A, 4C (R407, R457) | TUNE TO SIGNAL | SFR204 | ADJUST FOR OTHER CHANNEL MIN. |

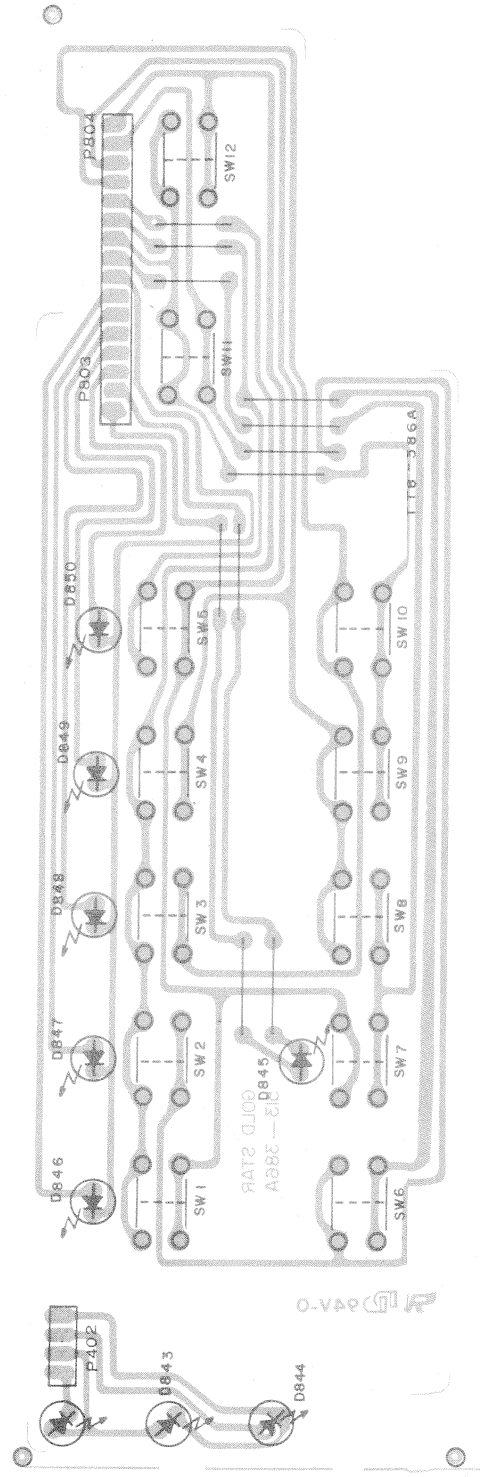
## PWB AY, MAIN (511-384B)



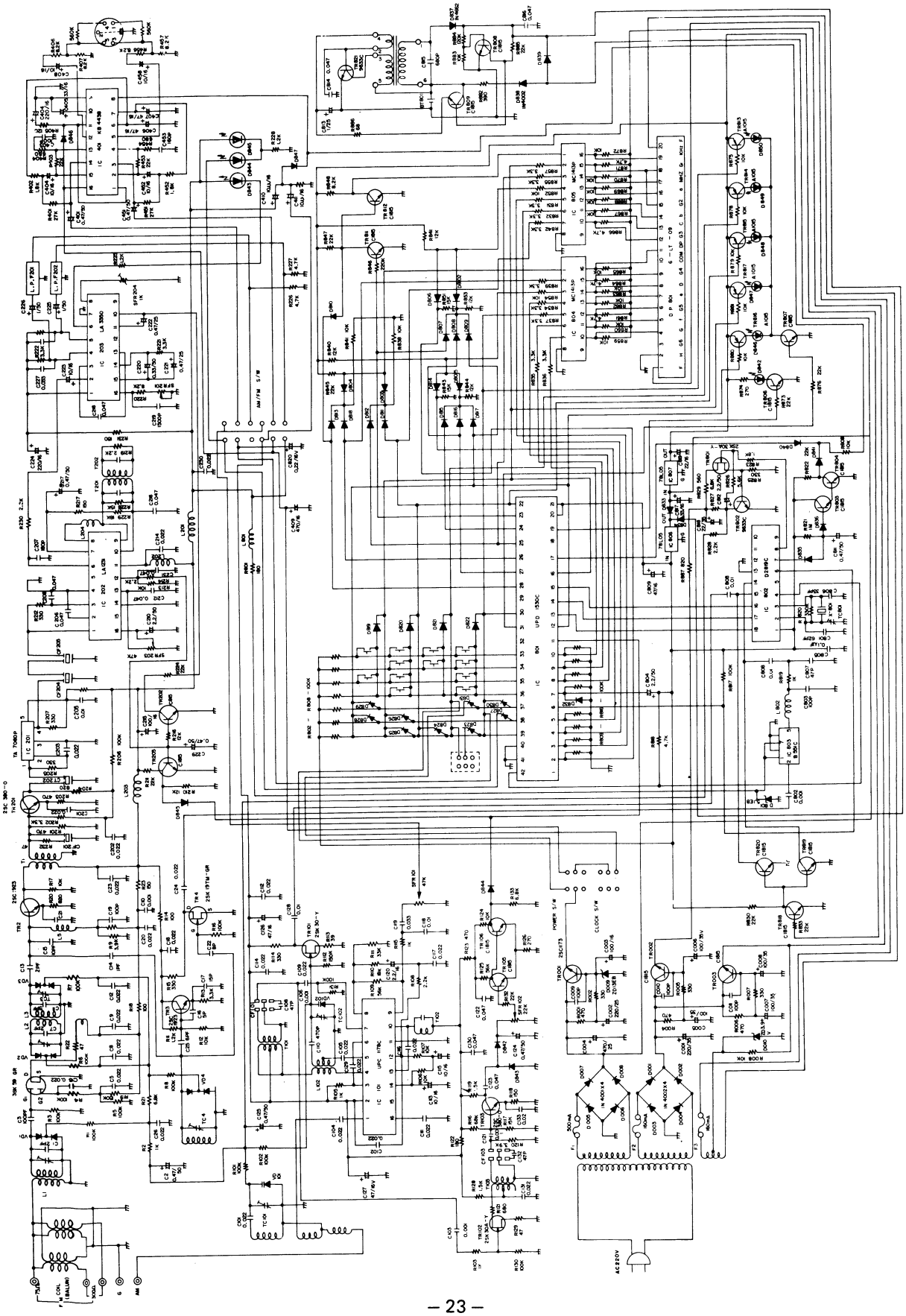
PWB AY, POWER SOURCE (511-385A)



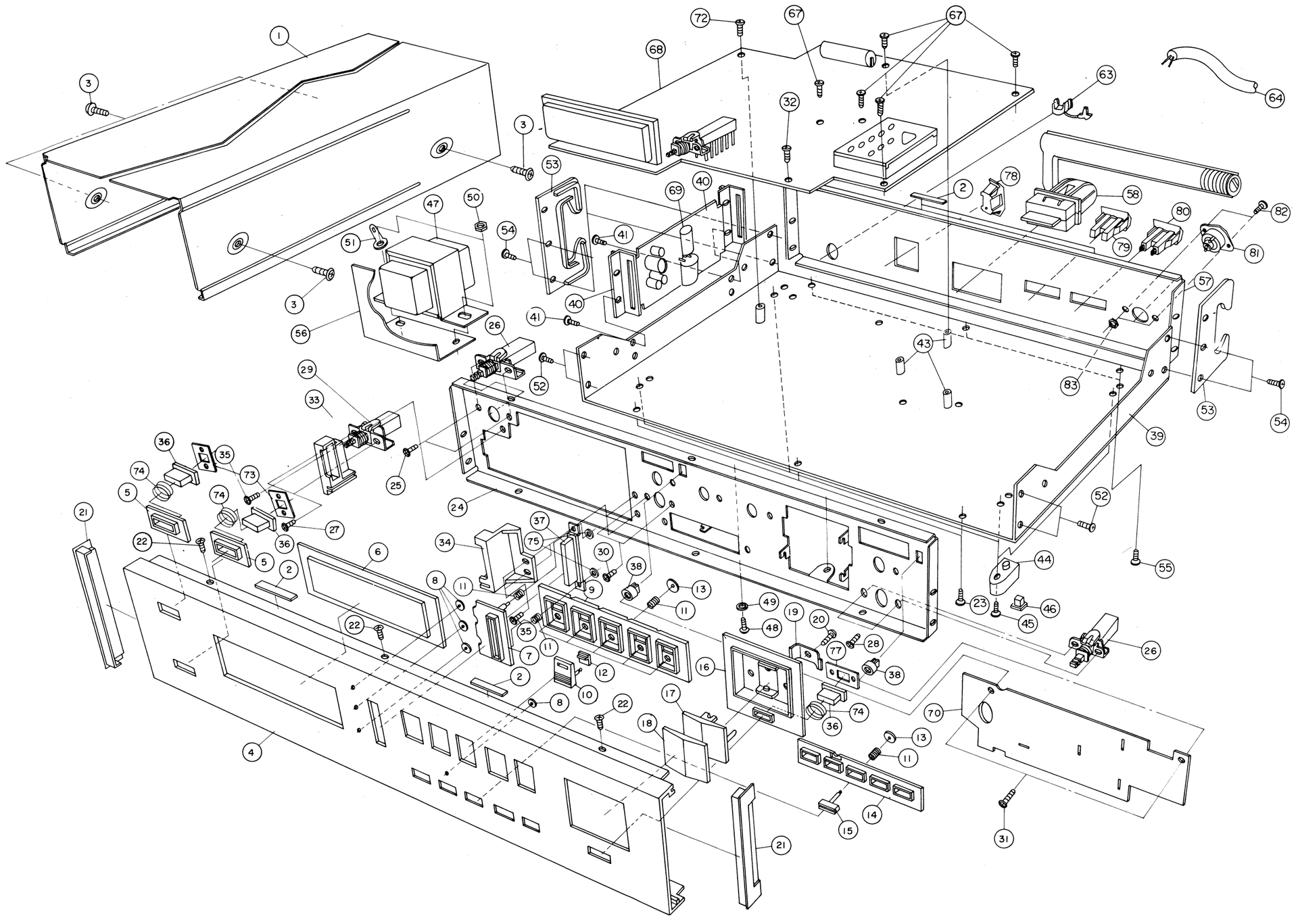

PWB AY, SWITCH (511-386A)



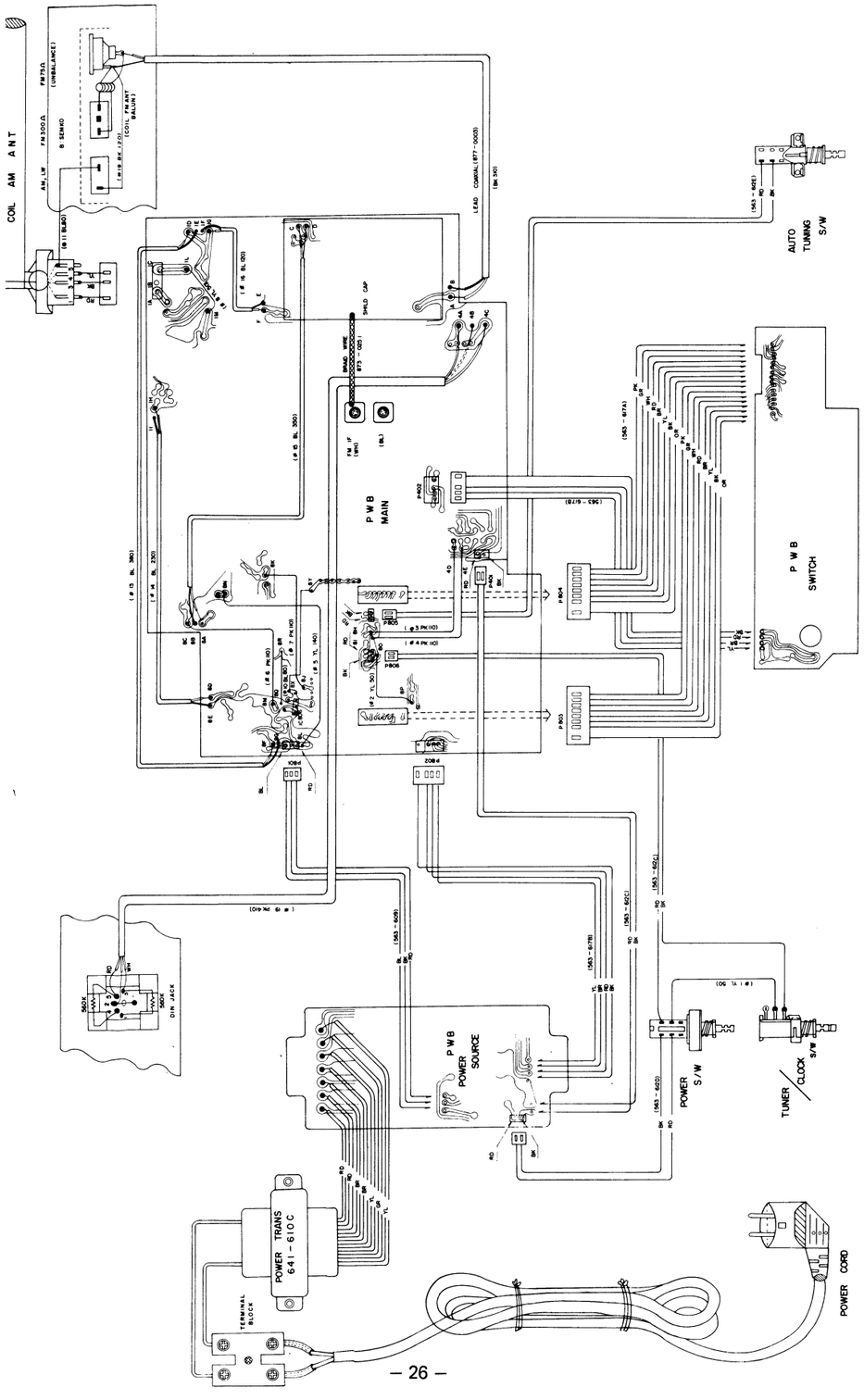
## SCHEMATIC DIAGRAM



## EXPLODED VIEW



## WIRING DIAGRAM






## MECHANICAL PARTS LIST

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 213-178B | CABINET |
| 2 | 472-604A | FELT |
| 3 | 353-604B | SCREW SPECIAL |
| 4 | 258-304B | PANEL FRONT |
| 5 | 341-121A | BUSHING PUSH KNOB |
| 6 | 236-115B | WINDOW |
| 7 | 341-122A | BUSHING AM FM KNOB |
| 8 | 463-003A | LENS. L.E.D. |
| 9 | 341-119A | BUSHING MEMORY KNOB |
| 10 | 273-236A | KNOB. MEMORY |
| 11 | 442-634D | SPRING. KNOB |
| 12 | 463-001A | LENS. MEMORY KNOB |
| 13 | 354-602J | WASHER. NONMETAL |
| 14 | 341-123A | BUSHING. KEY S/W KNOB |
| 15 | 273-237A | KNOB. KEY SWITCH |
| 16 | 341-120A | BUSHING TUNING KNOB |
| 17 | 271-138A | KNOB. TUNING |
| 18 | 276-031A | CAP. TUNING KNOB |
| 19 | 442-195A | SPRING. PLATE |
| 20 | TRQ1830J | SCREW. TRQ 2 + 3 x6 FZMY |
| 21 | 221-354A | COVER SIDE |
| 22 | TCQ1836J | SCREW TCQ 3 x 8 FZMY |
| 23 | TRR1836J | SCREW TRR 3 + 3 x 8 FZMY |
| 24 | 313-154A | CHASSIS FRONT |
| 25 | MRC1830J | SCREW MRC 3 x 6 FZMY |
| 26 | 554-606B | S/W. UNIPUSH |
| 27 | MRC1830J | SCREW MRC 3 x 6 FZMY |
| 28 | MRC1830J | SCREW MRC 3 x 6 FZMY |
| 29 | 554-606E | S/W. UNIPUSH |
| 30 | MRC1830J | SCREW MRC 3 x 6 FZMY |
| 31 | TRQ1841J | SCREW TRQ 2 + 3 x 12 FZMY |
| 32 | TRR1830J | SCREW TRR 3 + 3 x 6 FZMY |
| 33 | 321-298A | BRACKET DIGITRON L |
| 34 | 321-300A | BRACKET DIGITRON R |
| 35 | TRR1836J | SCREW TRR 3 x 8 FZMY |
| 36 | 273-238A | KNOB. PUSH |
| 37 | 273-239A | KNOB. AM. FM |
| 38 | 324-368A | HOLDER. PWB |
| 39 | 313-156B | CHASSIS. MAIN |
| 40 | 321-301A | BRACKET PWB |

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 41 | TRR1822J | SCREW TRR 3 x 4 FZMY |
| 42 | | |
| 43 | 322-605A | SUPPORTER PWB |
| 44 | 264-004A | LEG |
| 45 | TRR1836J | SCREW TRR 3 x 8 FZMY |
| 46 | 477-013A | RUBBER LEG |
| 47 | 641-610C | TRANS POWER |
| 48 | MRC1836J | SCREW MRC 3 x 8 FZMY |
| 49 | WSB1800D | WASHER SPRING |
| 50 | NHA1800J | NUT NHAI-3 FZMY |
| 51 | 562-009A | BS LUG |
| 52 | TRR1830J | SCREW TRR 3 x 6 FZMY |
| 53 | 445-052A | SPACER |
| 54 | TCQ1836J | SCREW TCQ 3 x 8 FZMY |
| 55 | TRR1830J | SCREW TRR 3 x 6 FZMY |
| 56 | 221-355A | COVER SHIELD |
| 57 | 258-635B | PANEL BACK |
| 58 | 632-612A | COIL, ANT EXT BAR MW |
| 59 | 573-047A | SOCKET |
| 60 | TRQ1836I | SCREW |
| 61 | 552-050A | SLIDE SWITCH |
| 62 | MRC1822I | SCREW MRC 3 x 4 FBK |
| 63 | 324-348A | HOLDER, CORD HEYCO |
| 64 | 681-003D | CORD. POWER |
| 65 | 563-014A | TERMINAL |
| 66 | TRQ1836I | SCREW |
| 67 | 353-027H | SPECIAL SCREW |
| 68 | 511-138A | PWB. AY MAIN |
| 69 | 511-385A | PWB AY POWER SOURCE |
| 70 | 511-386A | PWB AY SWITCH |
| 71 | 334-007A | STOPPER. SWITCH |
| 72 | MRC 1830J | SCREW MRC 3 x 6 FZMY |
| 73 | 442,634E | SPRING COIL |
| 74 | 384-043A | GUIDE KNOB |
| 75 | WPL1500J | WASHER WPL-2.6 |
| 76 | 354-602A | WASHER NON METAL |
| 77 | 384-044A | GUIDE KNOB. B |
| 78 | 573-606A | SOCKET, DIN 5P |
| 79 | 573-035A | SOCKET, ANT AM |
| 80 | 573-032A | SOCKET, ANT FM |
| 81 | 573-026A | SOCKET, ANT FM |
| 82 | MRC1836I | SCREW, MRC+3 8 FBK |
| 83 | NHA1800J | NUT, NH1-3 FZMY |

## ELECTRICAL PARTS LIST

| NO. | SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 1 | IC801 | 668-039A | IC, UPD1530C (U-COM) |
| 2 | IC802 | 668-040A | IC, UPD2819C (PLL) |
| 3 | IC803 | 668-041A | IC, UPB551C (Pre-scalar) |
| 4 | IC804, 805 | 668-042A | IC, MC1413P (TR ARRAY) |
| 5 | IC806, 807 | 668-044A | IC, UPC78L05 (Regulator) |
| 6 | IC201 | 668-024A | Integrated, Circuit, TA7060P |
| 7 | IC202 | 668-052A | IC LA1231 (FM, IF) |
| 8 | IC203 | 668-025A | Integrated Circuit LA3350 (MPX) |
| 9 | IC101 | 668-043A | IC UPC1178C (AM RF, IF) |
| 10 | IC401 | 668-038A | IC KB4438 (Muting) |
| 11 | DP801 | 659-001A | Display, Fluorescent 6-LT-09 |
| 12 | TR1 | 667-008B | FET 3SK-59GR |
| 13 | TR4 | 667-012A | FET 2SK 19 TM-GR TOSHIBA |
| 14 | TR101, 102, 801 | 667-010C | FET, 2SK30A-Y TOSHIBA |
| 15 | TR2, 3 | 665-819B | TR TOSHIBA, 2SC-1923-0 |
| 16 | TR103, 201 | 665-820B | TR TOSHIBA 2SC-380TM-0 |
| 17 | TR105, 106, 202, 203, 803, 804, 806 | 665-812C | TR TOSHIBA 2SC 1815-GR |
| | TR807, 808, 809, 811 812, 818, 819, 820 | 665-812C | TR TOSHIBA 2SC 1815-GR |
| 18 | TR813, 814, 815, 816 817 | 665-813C | TR TOSHIBA 2SC 1015-GR |
| 19 | | 665-813B | TR TOSHIBA 2SA1015-Y |
| 20 | TR802 | 662-026C | TR MOTOROLA MPS9633C |
| 21 | VD1, 2, 3, 4 | 654-412B | Diode AFC MV104G |
| 22 | VD101, 102 | 654-417C | Diode AFC MVAM125 MOTOROLA |
| 23 | D801 | 654-608C | Diode Zener ZPD 5.1 ITT |
| 24 | D810-13, 818-33, 35, 36, 840-48 | 652-603A | Diode Switching IS 2472R-OHM |
| 25 | D837, 838 | 652-005B | Diode Rectifier IN4002 |
| 26 | X801 | 618-001A | CRYSTAL UNIT 5.760 MHz |
| 27 | CF201, 202, 203, 204 | 616-007A | Filter, Ceramic SFE107MA8 RD |
| 28 | CF101 | 616-002B | Filter Ceramic SFZ, 460 A3L |
| 29 | CF103 | 616-002C | Filter Ceramic SFZ 460 $C_3$ |
| 30 | TC1, 2, 3, 101, 102 | 623-025A | TRIMMER, CTY-112B |
| 31 | TC4, 801 | 623-024C | TRIMMER |
| 32 | LPF201, 202 | 639-606A | LOW PASS Filter |
| 33 | L1 | 635-607H | Coil FM RF (Bobbin) |
| 34 | L2 | 635-607I | Coil FM RF (Bobbin) |
| 35 | L3 | 635-607J | Coil FM RF (Bobbin) |

| NO. | SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 36 | L4 | 635-607K | Coil FM RF (Bobbin) |
| 37 | L5, 201, 202, 203, 801 802 | 636-602B | Coil CHOKE |
| 38 | L204 | 636-607A | Coil CHOKE |
| 39 | T1 | 644-610A | Coil FM IFT |
| 40 | T201 | 647-604A | Coil FM Discriminator |
| 41 | T202 | 647-604B | Coil FM Discriminator |
| 42 | L102 | 634-602E | Coil OSC AM 150μH |
| 43 | T101, 103 | 644-609C | Coil MW IFT (Double Tuning) |
| 44 | T102 | 644-601B | Coil MW IFT |
| 45 | SFR204 | 613-002A | VR SEMI-FIXD SR19R-1KB 10D |
| 46 | SFR201 | 613-002C | VR SEMI-FIXD SR19R-4.7KB 10D |
| 47 | SFR203 | 613-002F | VR SEMI-FIXD SR19R-10KB 10D |
| 48 | SFR102 | 613-002D | VR SEMI-FIXD SR19R-22KB 10D |
| 49 | SFR101 | 613-002G | VR SEMI-FIXD SR19R-47KB 10D |
| 50 | | 573-064A | Socket AY IC 42P |
| 51 | | 573-063A | Socket IC 18P |
| 52 | | 874-0005 | Wire Copper Tin-COATED 0.8TA |
| 53 | | 561-005E | CONNECTOR MALE(8P) |
| 54 | | 561-005F | CONNECTOR MALE (4P) |
| 55 | | 561-009C | CONNCETOR MALE |
| 56 | | 561-009B | CONNECTOR MALE |
| 57 | | 564-018E | PLUG (MULTI-PRONG) |
| 58 | | 561-010B | CONNECTOR MALE MOLEX 3055-3A |
| 59 | | 276-042A | Cap Shield |
| 60 | | 276-043A | Cap Shield |
| 61 | | 221-363A | Cover Shield |
| 62 | | 384-035A | Guide Shield |
| 63 | | 554-606A | SW, UNI Push SUF 12 SR Shorting |
| 64 | BT801 | 534-003A | Battery Nicad |
| 65 | L804 | 646-006A | Trans Toroid |
| 66 | | 564-022A | Plug AY. 12 Pin |
| 67 | | 221-365A | Cover Plate |
| 68 | | 472-607A | FELT Fiber |
| 69 | C820 | CE224F01 | C, Electrolytic 0.22MF-50V |
| 70 | C221, 222 | CE474F01 | " 0.47MF-50V |
| 71 | C224, 404 | CE227C01 | " 220MF-16V |
| 72 | C215 | CE107C01 | " 100MF-16V |
| 73 | C126, 127, 406 407, 809 | CE476C09 | " 47MF-16V |
| 74 | C220, 811 | CE334F01 | " 0.33MF-50V |

| NO. | SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 75 | C405, 817 | CE336C01 | C, Electrolytic 33MF-16V |
| 76 | C113, 115, 402, 408 452, 458, 223 | CE106C01 | " 10MF-16V |
| 77 | C120, 210, 804, 812 | CE225F01 | " 2.2MF-50V |
| 78 | C225, 226, 813 | CE105F01 | " 1MF-50V |
| 79 | C2, 124, 125, 217, 229 401, 451 | CE474F01 | " 0.47MF-50V |
| 80 | C819, 821 | CE226C01 | " 22MF-16V |
| 81 | C410, 411 | CE106C01 | " 10MF-16V |
| 82 | C818 | CE226E01 | " 22MF-35V |
| 83 | C409 | CE477C01 | " 470MF-16V |
| 84 | C110 | CY471J01 | C. Polystyrol 470PF-JR |
| 85 | C219 | CY152J01 | " 1500PF-JR |
| 86 | C815 | CY681J01 | " 680PF-JR |
| 87 | C101, 133, 814, 816 | CQ223M01 | C. Polyester 0.022MF-M 50V |
| 88 | C119, 227, 228 | CQ333M01 | " 0.033MF-M 50V |
| 89 | C218 | CQ473M01 | " 0.047MF-M 50V |
| 90 | C118 | CQ103M01 | " 0.01MF-M 50V |
| 91 | C14 | CC010C06 | C. Ceramic CC 1pF-C CK 50V |
| 92 | C13, 7 | CC020C01 | " CC 2pF-C SL 50V |
| 93 | C16 | CC050C01 | " CC 5pF-C SL 50V |
| 94 | C1 | CC020C06 | " CC 2pF-C CH 50V |
| 95 | C22 | CC080C01 | " CC 8pF-C SL 50V |
| 96 | C11 | CC050C06 | " CC 5pF-C CH 50V |
| 97 | C15 | CC100C01 | " CC 10pF-C SL 50V |
| 98 | C17 | CC150J01 | " CC 15pF-J SL 50V |
| 99 | C25 | CC060C01 | " CC 6pF-C SL 50V |
| 100 | C806 | CC300J01 | " CC 30pF-J |
| 101 | C108, 132, 807 | CC470J01 | " CC 47pF-J SL 50V |
| 102 | C3, 19, 403, 453, 803 | CC101J01 | " CC 100pF-J SL 50V |
| 103 | C207 | CC181J01 | " CC 180pF-J SL 50V |
| 104 | C10, 103, 106, 121, 802 | CK102Z02 | C. Ceramic CK 0.001MF-Z 50V |
| 105 | C128, 205, 808, 810 | CK103Z02 | C. Ceramic CK 0.01MF-Z 50V |
| 106 | C5, 6, 9, 12, 20, 21, 23 24, 26, 8, 18, 131, 102 104, 105, 109, 111, 112 114, 201, 202, 203, 116 117, 129, 214, 230 | CK223Z02 | C. Ceramic CK 0.022MF-Z 50V |
| 107 | C206, 208, 212, 216 231, 122, 123, 130 | CK473Z02 | C. Ceramic CK 0.047MF-Z 50V |
| 108 | C805 | CK473Z02 | C. Ceramic CK 0.047MF-Z 50V |
| 109 | C801 | CC620J06 | C. Ceramic CC 62pF |
| 110 | R113 | RD390J09 | R. Carbon Film 39-J¼WM |

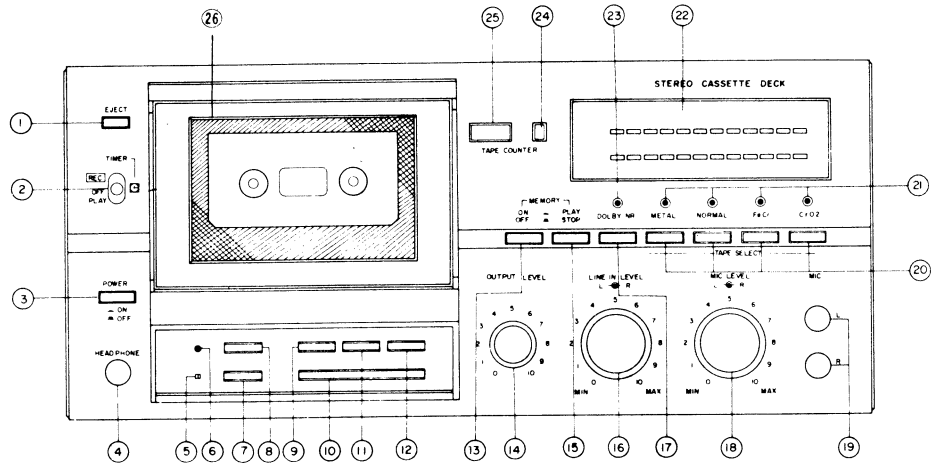
| NO. | SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 111 | R14 | RD101J02 | R. Carbon FiLM 100-J¼WR |
| 112 | R18, 208, 206 | RD101J09 | " 100-J¼WM |
| 113 | R874 | RD271J09 | " 270-J¼WM |
| 114 | R886 | RD470J09 | " 47-J¼WM |
| 115 | R15 | RD331J02 | " 330-J¼WR |
| 116 | R205, 207, 212, 114 825 | RD331J09 | " 330-J¼WM |
| 117 | R882 | RS391K05 | R Metal OXIDE 390-K 1WP |
| 118 | R123, 201, 203 | RD471J09 | R CARBON FILM 470-J¼WM |
| 119 | R829 | RD561J09 | " 560-J¼WM |
| 120 | R121, 404, 454 | RD681J09 | " 680-J¼WM |
| 121 | R204, 887, 20 | RD821J09 | " 820-J¼WM |
| 122 | R2, 103, 105, 819 | RD102J09 | " 1K-J¼WM |
| 123 | R11 | RD122J02 | " 1.2K-J¼WR |
| 124 | R225, 228 | RD122J09 | " 1.2K-J¼WM |
| 125 | R119, 128 | RD152J09 | " 1.5K-J¼WM |
| 126 | R402, 452, 823 | RD182J09 | " 1.8K-J¼WM |
| 127 | R214, 108, 828, 219 230 | RD222J09 | " 2.2K-J¼WM |
| 128 | R13 | RD332J02 | " 3.3K-J¼WR |
| 129 | R202, 221, 222, 223. 831, 832, 834, 835, 836, 852, 854 | RD332J09 | " 3.3K-J¼WM |
| 130 | R9 | RD392J02 | " 3.9K-J¼WR |
| 131 | R226, 227, 818, 838, 861, 864, 866, 871, 841, | RD472J09 | " 4.7K-J¼WM[ |
| 132 | R120 | RD392J09 | " 3.9K-J¼WM |
| 133 | R826 | RD562J09 | " 5.6K-J¼WM |
| 134 | R133, 21, 827 | RD682J09 | " 6.8K-J¼WM |
| 135 | R220, 406, 456, 407, 457, 848 | RD822J09 | " 8.2K-J¼WM |
| 136 | R12, 17 | RD103J02 | " 10K-J¼WR |
| 137 | R106, 107, 859, 863, 867 | RD103J09 | " 10K-J¼WM |
| 138 | R868, 869, 870, 872, 213 | RD103J09 | " 10K-J¼WM |
| 139 | R888, 875, 878, 879, 860, 862 | RD103J09 | " 10K-J¼WM |
| 140 | R865, 880, 881, 883, 124, 233 | RD103J09 | " 10K-J¼WM |
| 141 | R210, 216, 845 | RD123J09 | " 12K-J¼WM |
| 142 | R117, 218 | RD153J09 | " 15K-J¼WM |
| 143 | R110, 229 | RD183J09 | " 18K-J¼WM |
| 144 | R10 | RD223J02 | " 22K-J¼WR |

| NO. | SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 145 | R211, 224, 403, 408 453, 132, 822, 847, 830, 873, 876, 885, 833 | RD223J09 | " 22K-J¼WM |
| 146 | R837, 839, 842, 855, 857 | RD332J09 | R. CARBON FILM 3.3K-J¼WM |
| 147 | R3, 4, 5, 16 | RD104J02 | " 100K-J¼WR |
| 148 | R1, 6, 7, 8, 101, 102 802, 803, 804 | RD104J09 | " 100K-J¼WM |
| 149 | R805, 806, 807, 808, 809, 810, 811, 131 | RD104J09 | " 100K-J¼WM |
| 150 | R812, 813, 814, 815, 816, 817, 130, 234 | RD104J09 | " 100K-J¼WM |
| 151 | R122 | RD181J09 | " 180K-J¼WM |
| 152 | | RD682J09 | " 6.8K-J¼WM |
| 153 | R19, 112 | RD154J09 | " 150K-J¼WM |
| 154 | R401, 451 | RD273J09 | " 27K-J¼WM |
| 155 | R115 | RD102J01 | " 1K-J¼WM |
| 156 | R109, 125 | RD563J09 | " 56K-J¼WM |
| 157 | R111 | RD333J09 | " 33K-J¼WM |
| 158 | R116 | RD683J09 | " 68K-J¼WM |
| 159 | R820 | RD334J09 | " 330K-J¼WM |
| 160 | R821, 134 | RD105J09 | " 1M-J¼WM |
| 161 | R884 | RD124J09 | " 120K-J¼WM |
| 162 | R846 | RD224J09 | " 220K-J¼WM |
| 163 | | RD821J09 | " 820K-J¼WM |
| 164 | R405 | RD121J09 | " 120K-J¼WM |
| 165 | R129, 232 | RD470J09 | " 47-J¼WM |
| 166 | R22 | RD470J09 | " 47-J¼WM |
| 167 | R23, 118, 231 | RD151J09 | " 150-J¼WM |
| 168 | R217 | RD151J01 | " 150-J¼WM |
| 169 | | 586-101A | Fuse Holder KS Clip Type 5 x 20 |
| 170 | F1 | 585-205C | Fuse 5 x 20 KS 250V 500MA |
| 171 | F2, 3 | 585-201C | Fuse 5 x 20 KS 250V 160MA |
| 172 | D001, 002, 003, 004 | 652-005B | Diode Rectifier 1N4002 |
| 173 | D005, 006, 007, 008 | 652-005A | Diode Rectifier 1N 4001 |
| 174 | TR001 | 664-414B | TR TOSHIBA 2SC 1173-O |
| 175 | TR002 | 665-812C | TR TOSHIBA 2SC 1815-GR |
| 176 | D009 | 654-411B | Diode Zener RD13EB |
| 177 | D010 | 654-608A | Diode Zener ZPD3.9 ITT |
| 178 | | 561-009B | CONNECTOR MALE |
| 179 | | 563-612C | " AY (2P) |
| 180 | | 561-606E | " AY JST |
| 181 | | 563-609C | " AY (3P) |
| 182 | | 561-606O | " AY JST |

| NO. | SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|---|
| 183 | | 563-617B | CONNECTOR AY (4P) |
| 184 | C004 | CE477D01 | C. ELECTROLYTIC 470MF-25V |
| 185 | C001 | CE227E01 | " 220MF-35V |
| 186 | C002 | CE227D01 | " 220MF-25V |
| 187 | C005, 006, 007, 008 | CE107E01 | " 100MF-35V |
| 188 | C003 | CE107C01 | " 100MF-16V |
| 189 | C009, 010, 011 | CC101J01 | C. CERAMIC CC 100pF-J SL 50V |
| 190 | R001, 006, 004 | RD471J09 | R. CARBON FILM 470-J¼WM |
| 191 | R002, 005, 007 | RD331J09 | " 330-J¼WM |
| 192 | R003 | RD822J09 | " 8.2K-J¼WM |
| 193 | | 558-001A | SW SOFT TOUCH |
| 194 | | 653-022A | SED, TLR-114 |
| 195 | | 653-023A | LED, TLG-114 |
| 196 | | 563-617A | CONNECTOR AY (8P) |
| 197 | | 563-617B | " (4P) |
| 198 | D839 | 652-005A | DIODE, RECTIFIER 1N4001 |
| 199 | D803, 804, 834 | 651-605A | DIODE, AM DET. 1N34A |
| 200 | TR821 | 662N033C | TR, MOTOROLA MPS9411A-I |
| 201 | TR003 | 664-016B | TR, TOSHIBA 2C1160-O |
| 202 | R801 | RD181J03 | R, CARBON FILM 180-J½WP |
| 203 | R889 | RD563J02 | R, CARBON FILM 56K-J¼WR |

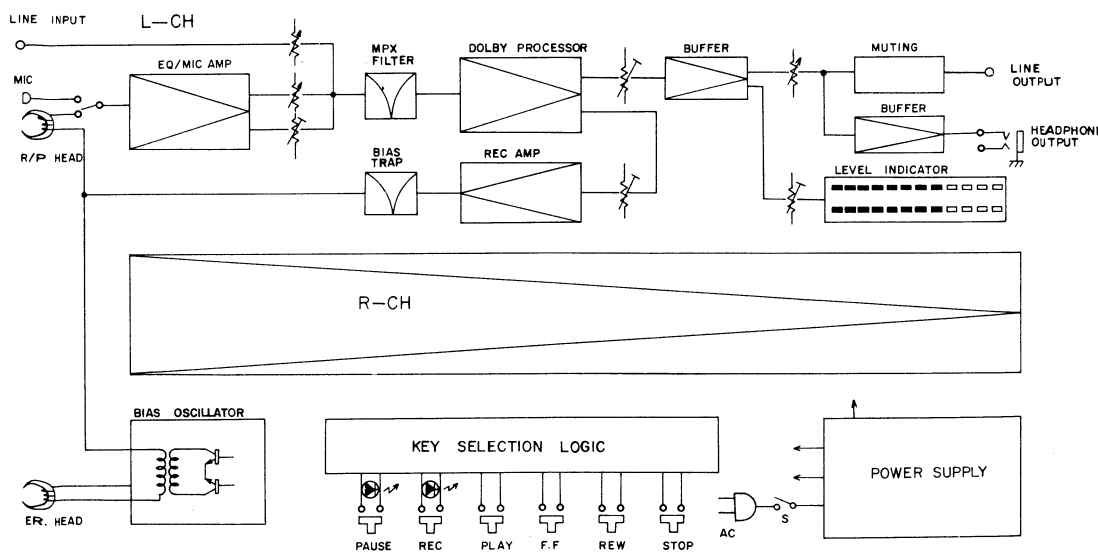
## GSK-1100

## CONTROLS



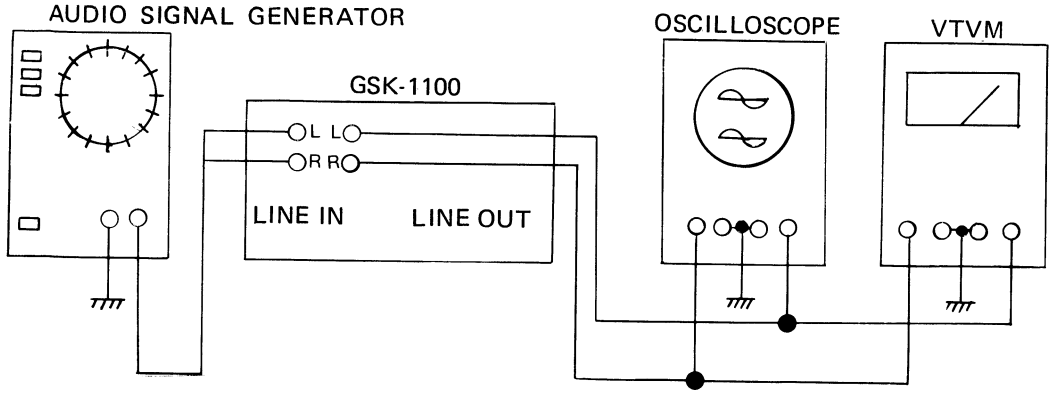

1. Eject Button
2. Timer Rec and Play Switch
3. Power Switch
4. Headphone Jack
5. Pause Indicator
6. Recording Indicator
7. Pause Button
8. Rec Button
9. Rewind Button
10. Stop Button
11. Play Button
12. F.F. Button
13. Memory ON/OFF Button
14. Output Level Knob
15. Memory Play/Stop Button
16. Line in Level Control Knob
17. Dolby NR Button
18. MIC Input Level Control Knob
19. MIC Jacks
20. Tape Select Button
21. Tape Indicator LED
22. Led Peak Level Meter
23. Dolby NR Indicator
24. Counter Reset Button
25. Tape Counter
26. Cassette Tape Holder

## BLOCK DIAGRAM



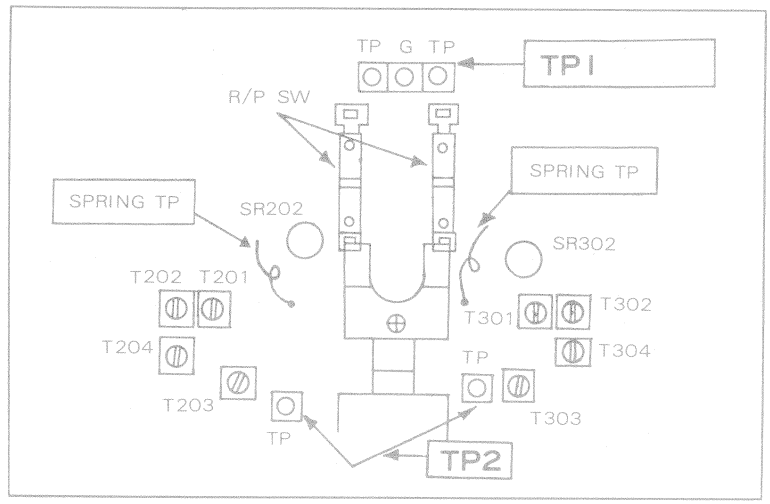
## ALIGNMENT PROCEDURE

### 1) CONNECTION



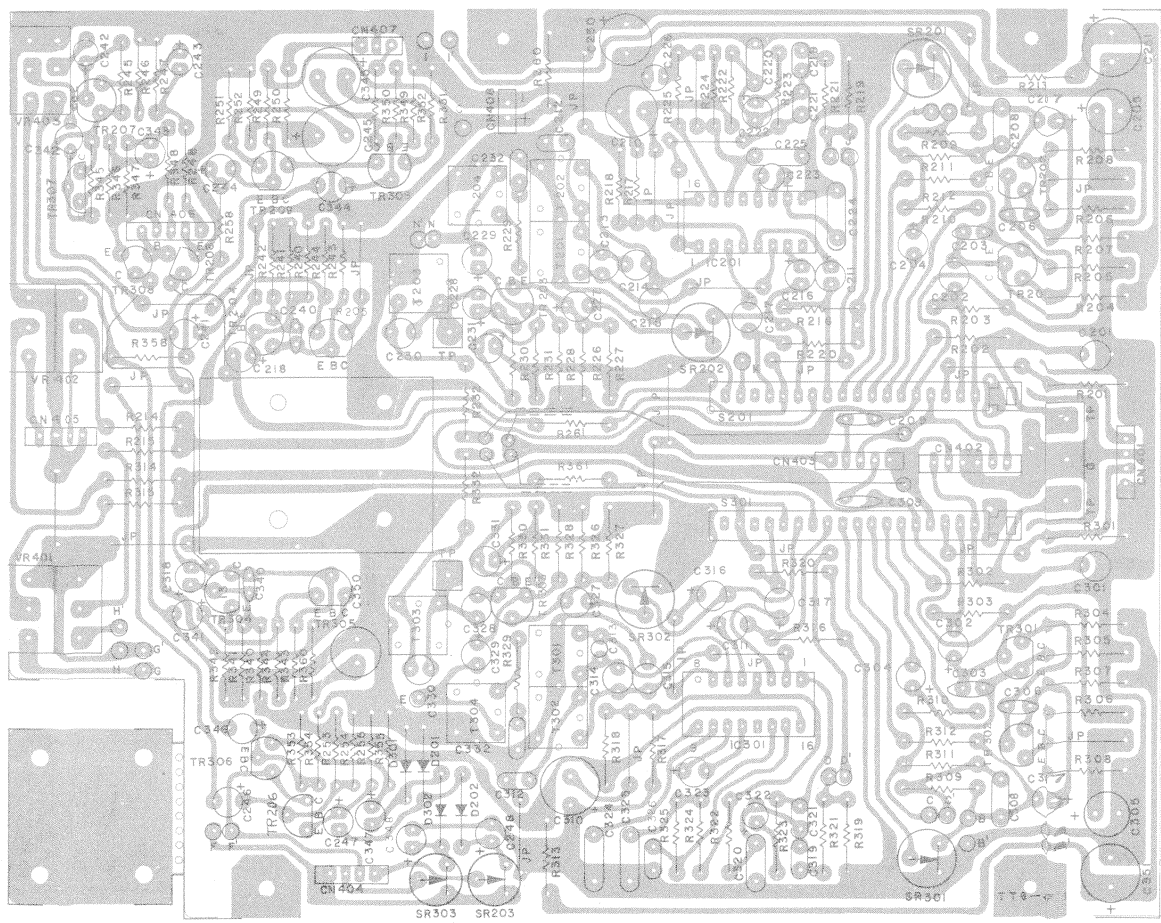

2) CASSETTE ADJUSTMENT CHART

| STEP | ITEM | TEST POINT & TEST EQUIPMENT | TEST TAPE | ADJUSTMENT | REMARK |
|---|---|---|---|---|---|
| 1 | AZIMUTH | VTVM & SCOPE: LINE OUT | MTT – 114 | R/P HEAD SCREW | ADJUST FOR MAXIMUM INDICATION AND MINIMUM L/R DIFFERENCE |
| 2 | P.B. OUTPUT | VTVM & SCOPE: LINE OUT | MTT – 150 | SR201 (L), 301 (R) | ADJUST P.B. OUTPUT VOLTAGE FOR 1V AT MAXIMUM LEVEL VOLUME |
| 3 | METER LEVEL | VTVM & SCOPE: LINE OUT | MTT – 150 | SR203 (L), 303 (R) | ADJUST FOR LEVEL METER SCALE "DD" MARK INDICATE AT "STEP 2" CONDITION |
| 4 | 19 KHZ TRAP | 19 KHZ OSCILLATOR: LINE IN<br>VTVM & SCOPE: TP2 (REFER TO FIG.) | | T202, 302 | ADJUST FOR MINIMUM 19 KHZ OUTPUT AT RECORD MODE |
| 5 | BIAS TRAP-1 | VTVM & SCOPE: SPRING TP (REFER TO FIG.) | | T201, 301 | ADJUST FOR MINIMUM BIAS LEAKAGE OUTPUT AT RECORD MODE |
| 6 | BIAS TRAP-2 | VTVM & SCOPE: TP2 (REFER TO FIG.) | | T203, 303 | ADJUST FOR MINIMUM BIAS LEAKAGE OUTPUT AT RECORD MODE |
| 7 | PEAKING | 15 KHZ OSCILLATOR: LINE IN<br>VTVM & SCOPE: LINE OUT | | T204, 304 | ADJUST FOR MAXIMUM OUTPUT AT RECORD MODE |
| 8 | REC BIAS (TAPE SEL : NORMAL) | VTVM & SCOPE: TP1 (REFER TO FIG.) | | SR401, 402 | ADJUST FOR 4mV AT RECORD MODE |
| 9 | REC LEVEL | 1 KHZ OSCILLATOR: LINE IN<br>VTVM & SCOPE: TP1 (REFER TO FIG.) | | SR202, 302 | 1. ADJUST LINE IN VOLUME SO THAT LED LEVEL METER COMES TO DOLBY LEVEL ("DD" MARK)<br>2. PUT OFF CN412 TO STOP BIAS OSCILLATION<br>3. ADJUST SR202 AND SR302 SO THAT OUTPUT VOLTAGE AT TP1 SHOULD BE 480mV |

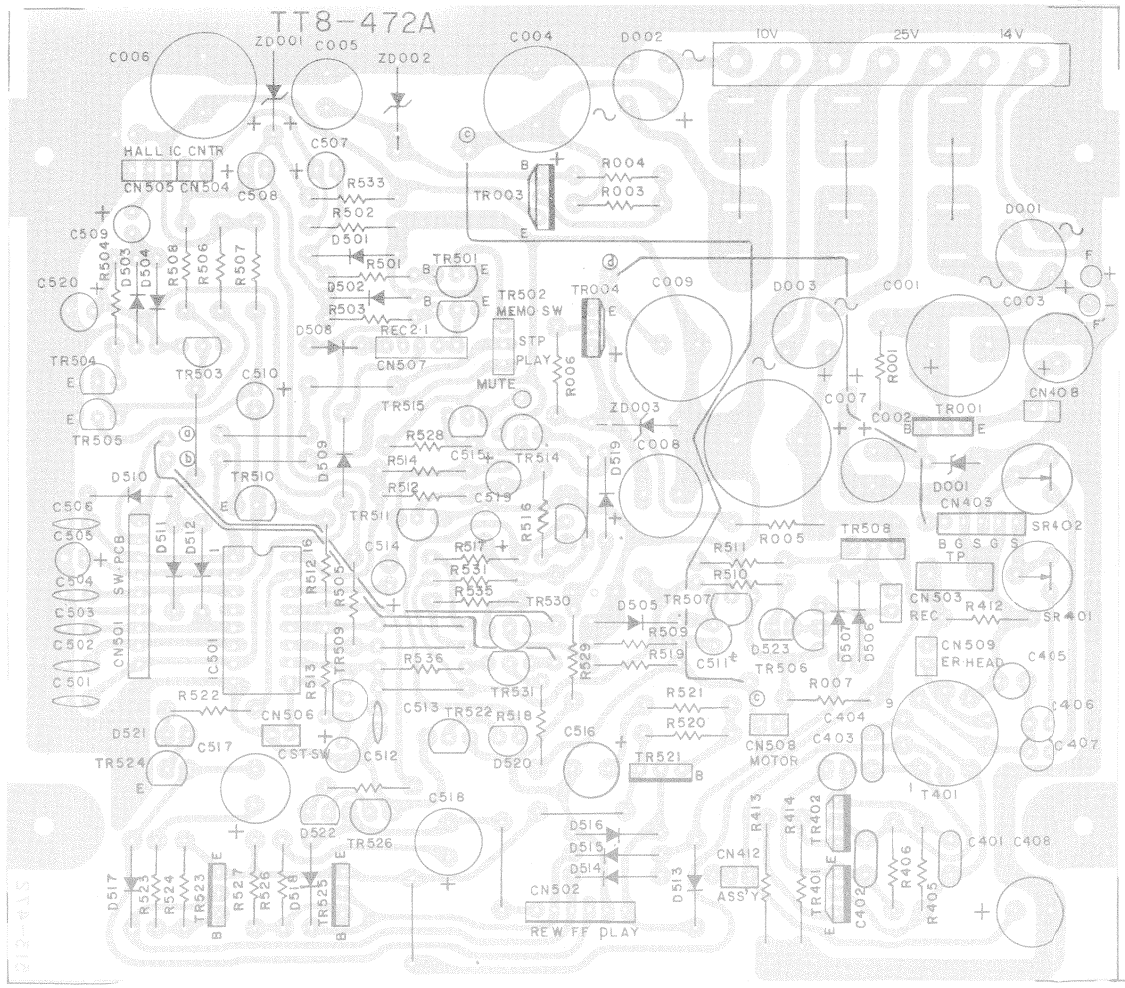



## PWB ASSEMBLY

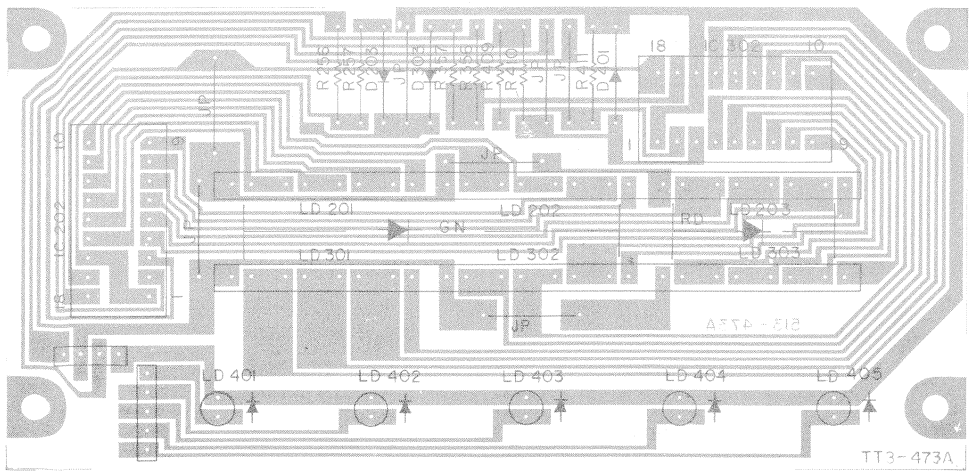
### PWB AY, MAIN (511-471A)



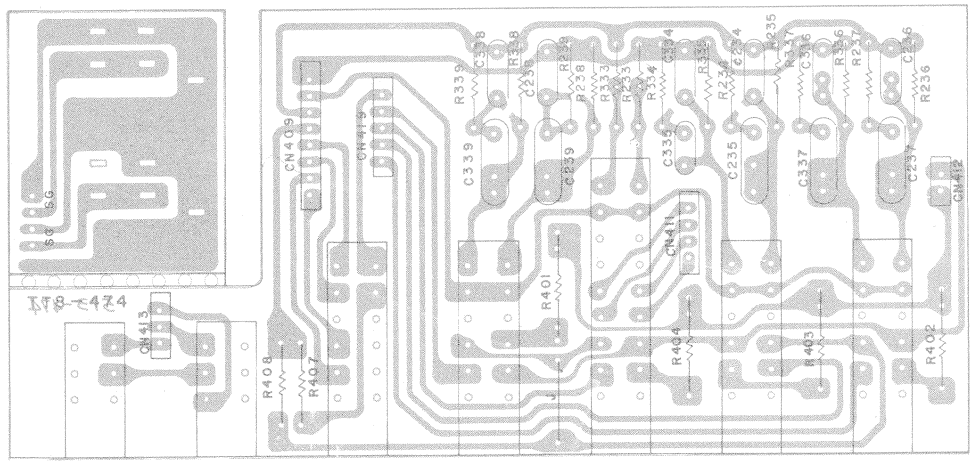
## PWB AY, LOGIC (511-472A)



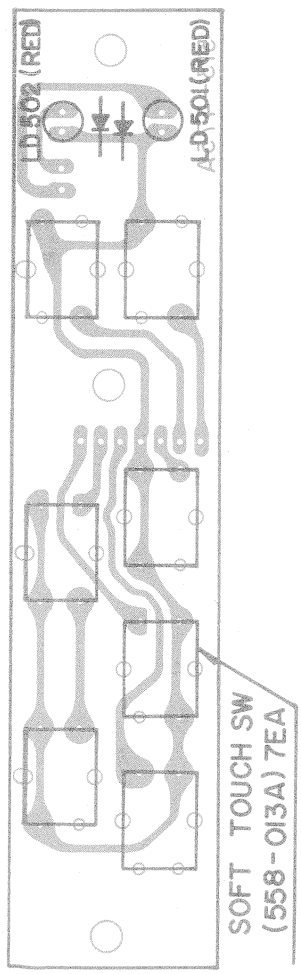

## PWB AY, PEAK LEVEL (511-473A)



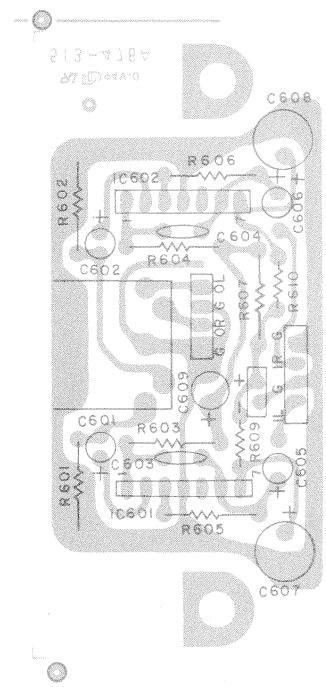
## PWB AY, SWITCH (511-474A)



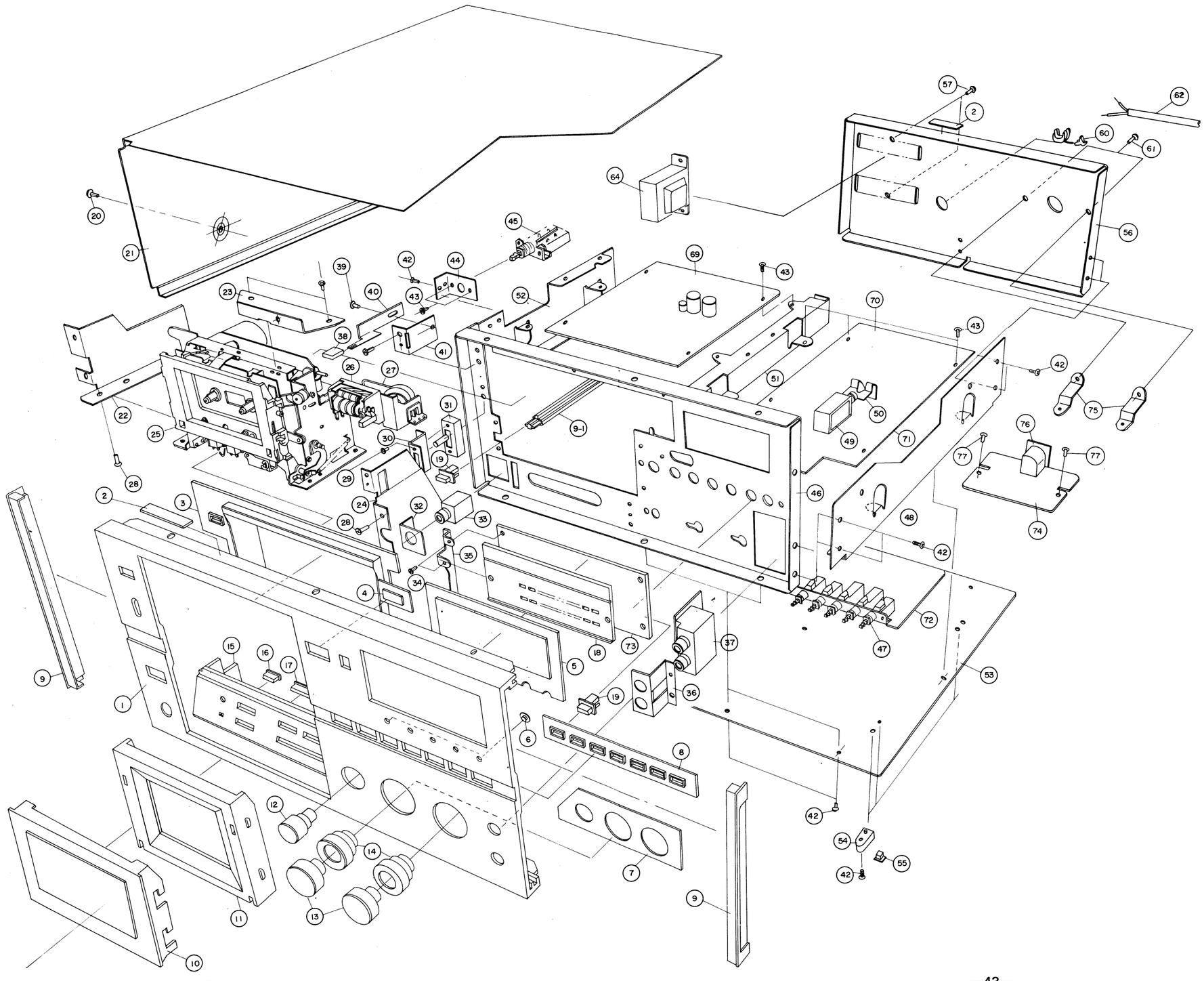

## PWB AY, SOFT TOUCH (511-475A)



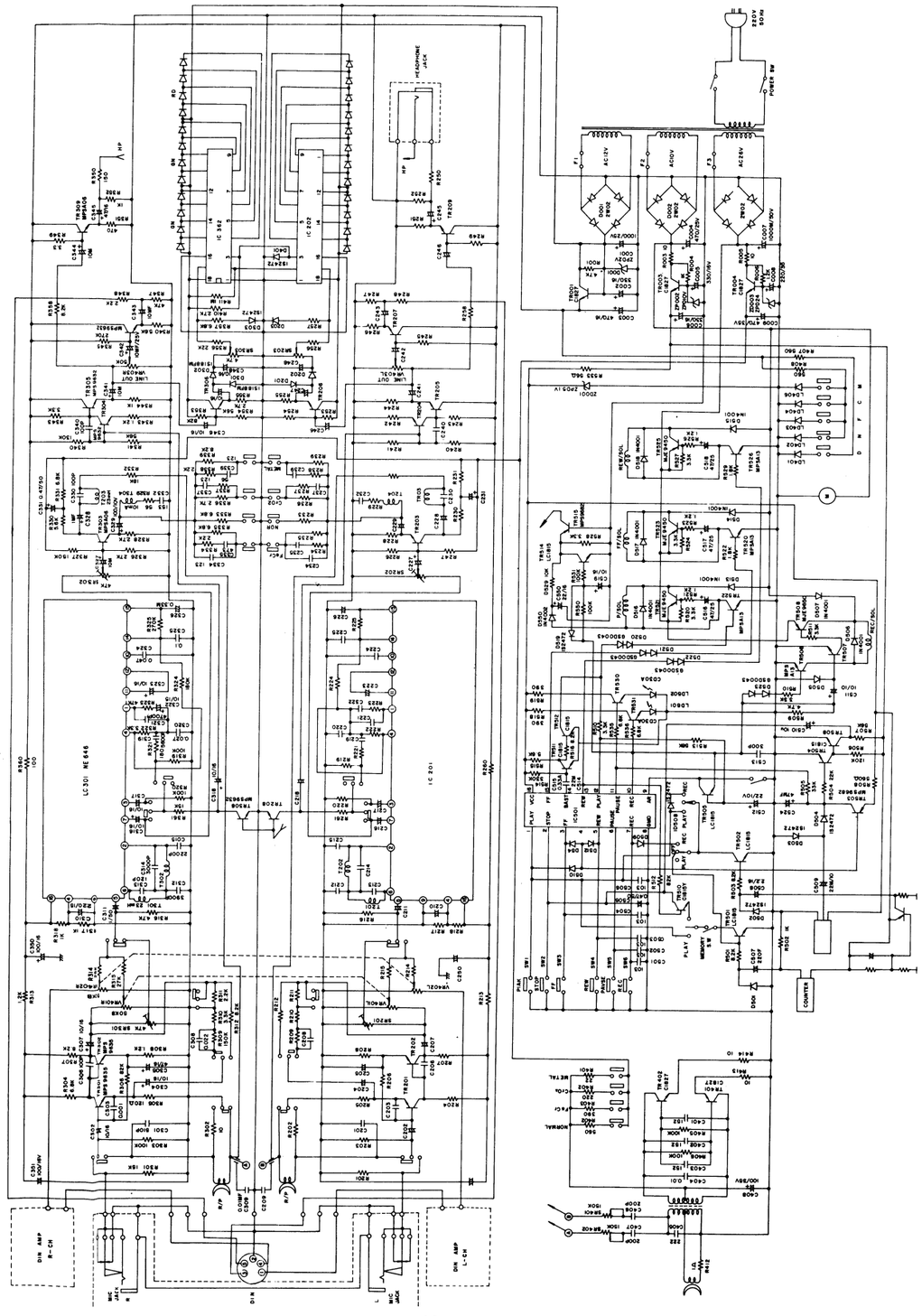

## PWB AY, NETWORK (511-476A)



## EXPLODED VIEW

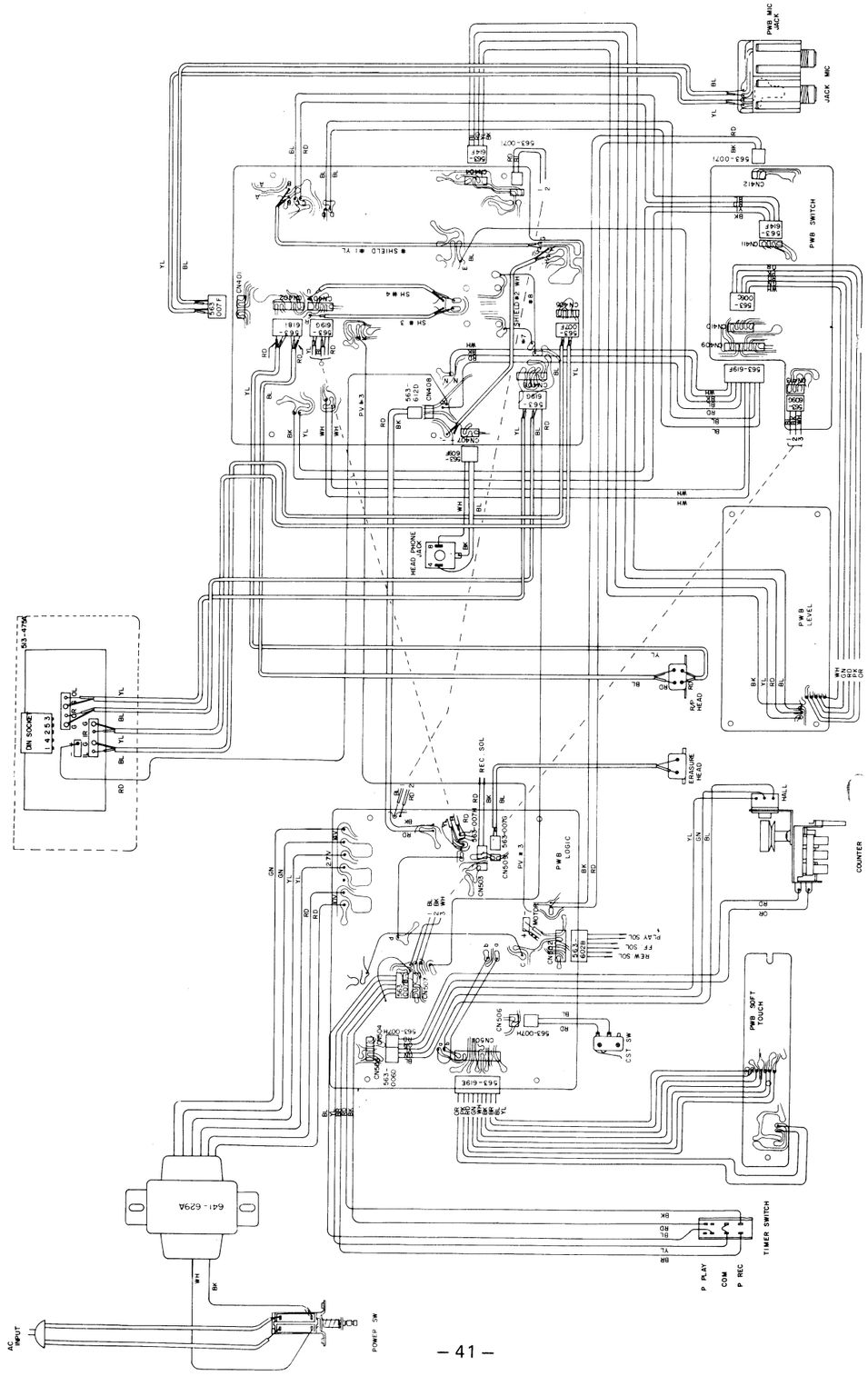


## SCHEMATIC DIAGRAM





## WIRING DIAGRAM

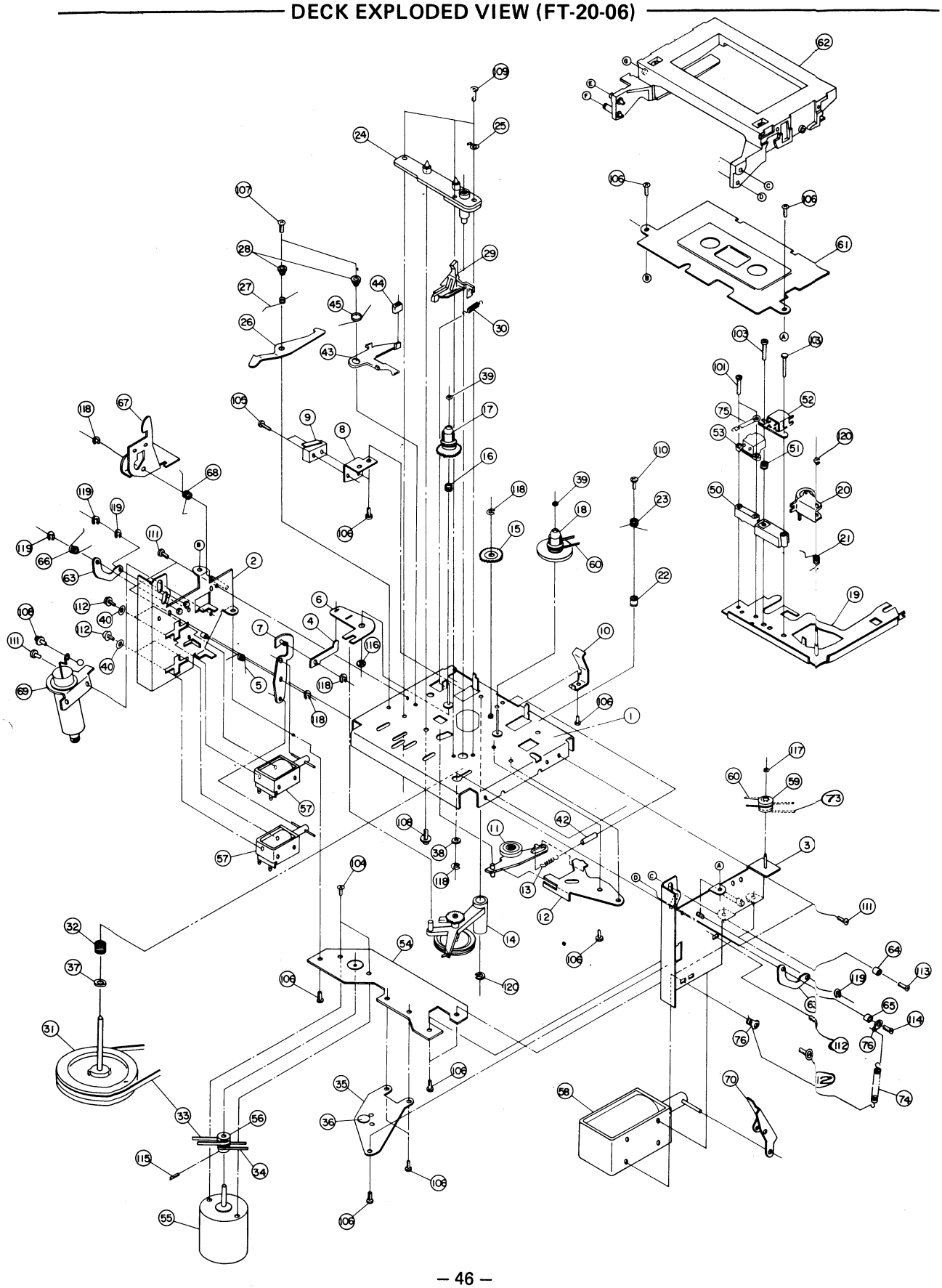


## MECHANICAL PARTS LIST

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 1. | 258-383C | PANEL, FRONT |
| 2. | 472-604A | FELT |
| 3. | 245-018A | ESCUTCHEON, CASSETTE |
| 4. | 463-005A | LENS, COUNTER |
| 5. | 236-131A | WINDOW |
| 6. | 463-003A | LENS, LED |
| 7. | 246-026A | DECORATION KNOB |
| 8. | 341-138A | BUSHING, PUSH KNOB |
| 9. | 221-390A | COVER, SIDE |
| 10. | 226-028A | DOOR, CASSETTE-B |
| 11. | 226-027A | DOOR, CASSETTE-A |
| 12. | 273-249A | KNOB, CONTROL |
| 13. | 273-280A | KNOB, LEVEL-A |
| 14. | 273-281A | KNOB, LEVEL-B |
| 15. | 245-017A | ESCUTCHEON, SOFT TOUCH |
| 16. | 273-283A | KNOB, TOUCH-A |
| 17. | 273-284A | KNOB, TOUCH-B |
| 18. | 256-380A | PLATE, BACK UP |
| 19. | 273-238B | KNOB, PUSH |
| 19. | 423-261A | SHAFT POWER SW |
| 20. | 353-052B | SCREW, SPECIAL |
| 21. | 213-186A | CABINET |
| 22. | 321-434A | BRACKET, CST-L |
| 23. | 321-432A | BRACKET, CST-TOP |
| 24. | 321-433A | BRACKET, CST-R |
| 25. | 412-037A | DECK AY, CASSETTE |
| 26. | 517-002A | COUNTER MEMORY |
| 27. | 451-011A | BELT COUNTER |
| 29. | 353-027K | SCREW, SPECIAL |
| 30. | 321-435A | BRACKET, SLIDE SW |
| 31. | 552-607A | SW, SLIDE |
| 32. | 323-043A | FIXER, JACK |
| 33. | 572-601A | JACK HEADPHONE |
| 35. | 321-440A | BRACKET, PWB-L |
| 36. | 323-614A | FIXER, JACK |
| 37. | 572-153A | JACK MIC |
| 38. | 273-279A | KNOB EJECT |
| 39. | 423-260A | SHAFT, BUSNING |
| 40. | 321-438A | BRACKET, EJECT-B |
| 41. | 321-437A | BRACKET, EJECT-A |
| 44. | 321-436A | BRACKET, POWER SW |
| 45. | 554-610C | SWITCH, POWER |

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 46. | 313-177A | CHASSIS, FRONT |
| 47. | 554-606F | SW, UNI-PUSH SUF74 12.5MTG |
| 48. | 315-168A | FRAME (R) SIDE |
| 49. | 691-067A | SOLENOID, TDS-10A |
| 50. | 321-442A | BRACKET, REC |
| 51. | 315-170A | FRAME, CENTER |
| 52. | 315-169A | FRAME (L) SIDE |
| 53. | 313-178A | CHASSIS BOTTOM |
| 54. | 264-004A | LEG |
| 55. | 477-013A | RUBBER, LEG |
| 56. | 258-385B | PANEL, BACK |
| 60. | 324-348A | HOLDER CORD |
| 62. | 681-003D | CORD, POWER |
| 64. | 641-629C | TRANS, POWER |
| 69. | 513-472A | PWB, LOGIC |
| 70. | 513-471A | PWB, MAIN |
| 72. | 513-474A | PWB, SWITCH |
| 73. | 513-473A | PWB, PEAK LEVEL |
| 74. | 513-476A | PWB, NETWORK |
| 75. | 321-441A | BRACKET, DIN JACK |
| 76. | 573-051A | SOCKET AY, DIN |
| | 513-475A | PWB, SOFT TOUCH |
| | 321-439A | BRACKET, PWB-R |
| | 558-013A | SW, TACT KHC 10902 |
| | 653-604A | LED, SIEMENS LD30A RD |
| | 563-619E | CONNECTOR AY |

## DECK EXPLODED VIEW (FT-20-06)



## ELECTRICAL PARTS LIST

### PWB AY, MAIN (511-471A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | 691-067A | Solenoid, TDS-10A-10A, DC 24V |
| VR401, 402 | 611-071D | VR, DM20R-50KB x 2 |
| VR403 | 611-609B | VR, GM80R=50KB x 2 |
| S201, 301 | 552-035B | SW, Slide |
| CN408 | 561-009B | Connector Male |
| CN407 | 561-009C | Connector Male |
| CN401, 404, 406 | 561-009D | Connector Male, 4 Pin |
| CN403, 406 | 561-009E | Connector Male (5P) |
| CN402 | 561-009A | Connector Male, Molex |
| IC201, 301 | 668-059A | IC, NE646B Dolby Signetics |
| T204, 304 | 638-601E | Coil Trap 60KHz |
| T201, 202, 203, 301, 302, 303 | 638-601C | Coil Trap |
| | 564-022A | Plug AY, 12Pin |
| TR201, 202, 301, 302 | 662-606C | TR, Motorola MPS9635C |
| TR203, 303, 209, 309 | 662-603B | TR, Fair-Motor, MPSA06 |
| TR204, 5, 6, 7, 8 TR304, 5, 6, 7, 8 | 662-034D | TR, Motorola MPS96321 |
| SR201, 202, 301, 302 | 613-002G | VR, Semi-fixed 47KB |
| SR203, 303 | 613-002C | VR, Semi-fixed 4.7KB |
| D201, 202, 301, 302 | 651-001D | Diode, 1S188FM-1 |
| R201, 301, 261, 361 | RD153J09 | R, Carbon Film 15K-J¼WM |
| R202, 302 | RD100J09 | R, Carbon Film 10-J¼WM |
| R203, 303 | RD104J09 | R, Carbon Film 100K-J¼WM |
| R204, 304, 216, 316, 223 323, 247, 347 | RD473J09 | R, Carbon Film 47K-J¼WM |
| R205, 305 | RD121J09 | R, Carbon Film 120-J¼WM |
| R206, 306 | RD823J09 | R, Carbon Film 82K-J¼WM |
| R207, 307, 212, 312 | RD822J09 | R, Carbon Film 8.2K-J¼WM |
| R208, 308, 213, 313 | RD122J09 | R, Carbon Film 1.2K-J¼WM |
| R209, 309 | RD154J09 | R, Carbon Film 150K-J¼WM |
| R210, 310 | RD332J09 | R, Carbon Film 3.3K-J¼WM |
| R211, 311, 248, 348 | RD222J09 | R, Carbon Film 2.2K-J¼WM |
| R214, 215, 314, 315, 226, 326 | RD273J09 | R, Carbon Film 27K-J¼WM |
| R217, 218, 317, 318, 252 352, 244, 344 | RD102J09 | R, Carbon Film 1K-J¼WM |
| R219, 220, 319, 320, | RD104J09 | R, Carbon Film 100K-J¼WM |
| R221, 321 | RD181J09 | R, Carbon Film 180-J¼WM |
| R222, 322, 243, 343 | RD332J09 | R, Carbon Film 3.3K-J¼WM |
| R260, 360 | RD101J09 | R, Carbon Film 100-J¼WM |

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| R224, 324, 240, 340 | RD184J09 | R, Carbon Film 180K-J¼WM |
| R225, 325, 245, 345 | RD274J09 | R, Carbon Film 270K-J¼WM |
| R228, 328, 255, 355 | RD272J09 | R, Carbon Film 2.7K-J¼WM |
| R229, 329 | RD560J09 | R, Carbon Film 56-J¼WM |
| R230, 330, 246, 346 | RD562J09 | R, Carbon Film 5.6K-J¼WM |
| R231, 331 | RD682J09 | R, Carbon Film 6.8K-J¼WM |
| R232, 332 | RD183J09 | R, Carbon Film 18K-J¼WM |
| R241, 341, 254, 354 | RD563J09 | R, Carbon Film 56K-J¼WM |
| R242, 342 | RD122J09 | R, Carbon Film 1.2K-J¼WM |
| R249, 349 | RD333J09 | R, Carbon Film 33K-J¼WM |
| R250, 350 | RD151J09 | R, Carbon Film 150-J¼WM |
| R253, 353 | RD823J09 | R, Carbon Film 82K-J¼WM |
| R227, 327 | RD154J09 | R, Carbon Film 150K-J¼WM |
| R258, 358 | RD822J09 | R, Carbon Film 8.2K-J¼WM |
| CN409 | 563-619F | Connector Assy |
| CN503 | 563-007H | Connector AY Molex (2P) |
| C208, 308 | CQ223J01 | C, Polyester 0.02MF-J 50V |
| C219, 319 | CL562F01 | C, Polypropylene 0.0056MF-F 50V |
| C221, 321 | CL472F01 | C, Polypropylene 0.0047MF-F 50V |
| C220, 320 | CL273F01 | C, Polypropylene 0.027MF-F 50V |
| C224, 324 | CQ473J01 | C, Polyester 0.047MF-J 50V |
| C225, 325 | CQ104J01 | C, Polyester 0.1MF-J 50V |
| C232, 332 | CQ123J01 | C, Polyester 0.012MF-F 50V |
| C203, 303 | CY102J01 | C, Polystyrol 1000PF-JR |
| C201, 301 | CY511J01 | C, Polystryol 510PF-JR |
| C213, 313, 230, 330 | CY121J01 | C, Polystyrol 120PF-JR |
| C212, 312 | CY392J01 | C, Polystyrol 3900PF-JR |
| C214, 314 | CY302J01 | C, Polystyrol 3000PF-JR |
| C215, 315 | CY272J01 | C, Polystyrol 2700PF-JR |
| C206, 306, 240, 340 | CC101J01 | C, Ceramic CC 100PF-J SL 50V |
| CN411 | 563-614F | Connector AY Molex 4P |
| C351, 251, 250, 350 | CE107C01 | C Electrolytic 100MF 16V |
| C202, 302, 207, 307, 204, 304, 216, 217, 218, 316, 317, 318, 222, 223, 322, 323, 227, 327, 228, 328 | CE106C01 | C Electrolytic 10MF 16V |
| C241, 242, 243, 341, 342, 343, 244, 246, 247, 344, 346, 347, 248, 348 | CE106C01 | C, Electrolytic 10MF 16V |

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| C226, 326 | CE334F01 | C, Electrolytic 0.33MF 50V |
| C205, 305, 245, 345 | CE476C01 | C, Electrolytic 47MF 16V |
| C210, 310 | CE227C01 | C, Electrolytic 220MF 16V |
| C211, 311, 231, 331 | CE105F01 | C, Electrolytic 1MF 50V |
| C229, 329 | CE107B01 | C, Electrolytic 100MF 10V |
| C209, 309 | CK103K02 | C, Ceramic 0.01MF-K 50V |
| C288, 388 | CQ102J01 | C, Polyester 0.001MF-J 50V |
| R251, 351 | RD471J09 | R, Carbon Film 470-J¼WM |

## PWB AY, NETWORK (511-476A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| IC601, 602 | 668-613A | IC, TA7120P (EQ) |
| R601, 602 | RD822J09 | R, Carbon Film 8.2K-J¼WM |
| R603, 604 | RD563J09 | R, Carbon Film 56K-J¼WM |
| R605, 606 | RD153J09 | R, Carbon Film 15K-J¼WM |
| R607 | RD472J09 | R, Carbon Film 4.7K-J¼WM |
| R609, 610 | RD122J09 | R, Carbon Film 1.2K-J¼WM |
| C603, 604 | CC300J01 | C, Ceramic 30PF-J |
| C601, 602 | CE226C01 | C, Electrolytic 22MF 16V |
| C605, 606 | CE106C01 | C, Electrolytic 10MF 16V |
| C609 | CE336C01 | C, Electrolytic 33MF 16V |
| C607, 608 | CE107C01 | C, Electrolytic 100MF 16V |
| CN601 | 561-009B | Connector Male |
| | 563-007I | Connector Ay Molex (29) |

## PWB AY, LOGIC (511-472A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| IC501 | 668-118A | IC, M54410P |
| TR501, 2, 4, 5, 7, 9, 10, 11, 12, 30, 31 | 665-884A | TR, Motorola LC1815-Y |
| TR506, 522, 524, 526 | 663-019A | TR, Fairchild MPSA13 |
| TR523, 525 | 662-018B | TR Motorola MJE9450 |
| TR503, 515 | 665-605E | TR MPS9682 |
| TR003, 004, 401, 402, 001 | 665-882C | TR Sanken 2SC1827-Y |
| D501, 2, 3, 4, 5, 9, 10, 11, 12, 19 | 652-005B | Diode SW 1S2472R-OHM |
| D507, 513, 514, 515, 550 | 652-005B | Diode Rectifier 1N4002 |
| ZD001 | 654-608C | Diode, Zener, ZPD5.1 |
| ZD002 | 654-612B | Diode, Zener, Moto10V |
| ZD003 | 654-607E | Diode, Zener, ZPD-24 |
| D001 | 654-607A | Diode Zener, ZPD-12 |
| D001, 002, 003 | 652-612A | Diode Rectifier ZW02G12A |
| D506, 516, 517, 518 | 652-005A | Diode Rectifier 1N4001 |
| R533 | RD560J09 | R, Carbon Film 56-J¼WM |
| R412 | RD010J09 | R, Carbon Film 1-J¼WM |
| R405, 406, 531, 530 | RD104J09 | R, Carbon Film 100K-J¼WM |
| R413, 414, 003, 005 | RD100J03 | R, Carbon Film 10-J½WP |
| R502, 004 | RD102J09 | R, Carbon Film 1K J¼WM |
| R501 503 512 516 | RD822J09 | R Carbon Film 8.2K J¼WM |
| R510, 511, 517, 520, 524, 527, 528 | RD332J09 | R, Carbon Film 3.3K-J¼WM |
| R522, 525, 001 | RD182J09 | R, Carbon Film 1.8K-J¼WM |
| R515 | RD562J09 | R, Carbon Film 5.6K-J¼WM |
| R508 | RD561J09 | R, Carbon Film 560-J¼WM |
| R507, 513 | RD563J09 | R, Carbon Film 56K-J¼WM |
| R521, 523, 526, 006 | RD122J09 | R, Carbon Film 1.2K-J¼WM |
| R535, 536 | RD682J09 | R, Carbon Film 6.8K-J¼WM |
| R529 | RD103J09 | R, Carbon Film 10K-J¼WM |
| R514 | RD334J09 | R, Carbon Film 330K-J¼WM |
| R518, 519, 511, 521 | RD681J09 | R, Carbon Film 680-J¼WM |
| R504 | RD223J09 | R, Carbon Film 22K-J¼WM |
| R505 | RD333J09 | R, Carbon Film 33-J¼WM |
| R506 | RD124J09 | R, Carbon Film 120K-J¼WM |
| R509 | RD472J09 | R, Carbon Film 4.7K-J¼WM |
| C406, 407 | CY201J01 | C, Polystrol 200PF-JR |

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| C405 | CY222J03 | C, Polystyrol 2200PF 100V |
| C401, 402, | CQ152J01 | C, Polyster 0.0015MF-J 50V |
| C404 | CY103J03 | C, Polystyrol 1000PF JR 100V |
| C403 | CY152J01 | C, Polystyrol 1500PF-JR |
| C408 | CE107E01 | C, Electrolytic 100MF 35V |
| C501, 2, 3, 4, 6 | CK103K02 | C, Ceramic 0.01MF-K 50V |
| C505 | CE474F01 | C, Electrolytic 0.47MF 50V |
| C507, 508, 514 | CE225C01 | C, Electrolytic 2.2MF 16V |
| C513 | CC301J01 | C, Ceramic CC 300PF-J |
| C509, 512 | CE226C01 | C, Electrolytic 22MF-16V |
| C510 | CE106C01 | C, Electrolytic 10MF-16V |
| C520 | CE476E01 | C, Electrolytic 47MF-35V |
| C004 | CE228C01 | C, Electrolytic 2200MF 16V |
| C002, 005, 006 | CE337C01 | C, Electrolytic 330MF 16V |
| C009 | CE477E01 | C, Electrolytic 470MF 35V |
| C008 | CE227E01 | C, Electrolytic 220MF 35V |
| C007 | CE108F01 | C, Electrolytic 1000MF 50V |
| T401 | 634-608B | Coil, Bias OSC 1.7MH |
| SR401, 402 | 613-002E | VR, Semi-Fixed 150kB |
| D520, 521, 522, 523 | 654-012A | Diode, Biasing, GSD0043 |
| C515 | CE334D01 | C, Electrolytic 0.33MF 25V |
| C511, 550 | CE226C01 | C, Electrolytic 22MF 16V |
| C516, 517, 518 | CE476E01 | C, Electrolytic 47MF 35V |
| TR508, 521 | 665-805A | TR, Motorola TIP32B |
| C001 | CE108D01 | C, Electolytic 1000MF 25V |
| C003 | CE477C01 | C, Electrolytic 470MF 16V |
| TR514 | 665-884A | TR, Motorola LC1815-Y |
| | 564-022A | Plug, AY, 12 Pin |
| CN507 | 561-009E | Connector Male (5P) |
| CN502 | 561-009A | Connector Male, Molex 3022-06A |
| | 561-009H | Connector Male, Male (Molex 9P) |
| CN408 | 563-612D | Connector AY (2P) |
| CN412 | 563-007I | Connector AY Molex (29) |
| CN403 | 563-619G | Connector Assy |
| CN413 | 563-609G | Connector Assy |
| CN503, 504, 506, 509 | 561-009B | Connector Male |
| | 586-101A | Fuse Holder |
| | 585-110C | Fuse 250V 1.25A |
| | 585-113C | Fuse 250V 2.0A |
| | 585-106C | Fuse 250V 630mA |
| | 563-007I | Connector Ay Molex |

## PWB AY, PEAK LEVEL (511-473A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| IC202, 302 | 668-056A | IC UAA180 (LED DISPLAY DRIVE) |
| D401, 203, 303 | 652-605B | DIODE SW 1S2472 R-OHM |
| LD401 | 653-604B | LED, SIEMENS LD37A GN |
| LD402, 403, 404, 405 | 653-604A | LED, SIEMENS LD30A RD |
| LD201, 202, 301, 302 | 653-103B | LED, ARRAY NATIONAL LN03202P |
| LD203, 303 | 653-604A | LED, ARRAY NATIONAL LN02202P |
| R256, 356 | RD223J09 | R, CARBON FILM 22K-J¼WM |
| R257, 357 | RD682J09 | " 6.8K-J¼WM |
| R409 | RD105J09 | " 1M-J¼WM |
| R410 | RD272J09 | " 2.7K-J¼WM |
| R777 | RD390J09 | " 39-J¼WM |
| CN404 | 563-614F | CONNECTOR AY MOLEX 4P |
| CN410 | 563-619H | CONNECTOR AY MOLEX 5P |

## PWB AY, SWITCH (511-474A)

| SYMBOL NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | 554-606F | SW, UNI-PUSH SUF74, 12,5 |
| CN412 | 561-009B | CONNECTOR MALE |
| CN413 | 561-009C | " |
| CN411 | 561-009D | " |
| CN410 | 561-009E | " |
| CN409 | 561-009F | " |
| R407, 408 | RD561J09 | R, CARBON FILM 560-J¼WM |
| R401 | RD220J03 | " 22-J½WP |
| R404 | RD471J03 | " 470-J½WP |
| R403 | RD331J03 | " 330-J½WP |
| R402 | RD271K03 | " 270-J½WP |
| R238, 338, 234, 334 | RD222J09 | " 2.2K-J¼WM |
| R239, 339 | RD122J09 | " 1.2K-J¼WM |
| R237, 337 | RD560J09 | " 56-J¼WM |
| R235, 335, 233, 333 | RD682J09 | " 6.8K-J¼WM |
| R236, 336 | RD272J09 | " 2.7K-J¼WM |
| C237, 337, 234, 334 | CQ123J01 | C, POLYESTER 0.012MF-J 50V |
| C235, 335, 238, 338 | CQ473J01 | " 0.047MF-J 50V |
| C239, 339 | CQ223J01 | " 0.022MF-J 50V |

## DECK MECHANISM PARTS LIST (FT-20-06)

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 1. | PBD 0566 | CHASSIS ASS'Y |
| 2. | PBD 0841 | SIDE PLATE L ASS'Y |
| 3. | PBD 0640 | SIDE PLATE R ASS'Y |
| 4. | PBE 14073 | LINK PLATE B |
| 5. | PBE 14084 | SPRING |
| 6. | PBE 14074 | LINK PLATE C |
| 7. | PBE 01190 | LINK PLATE A ASS'Y |
| 8. | PBE 14092 | SWITCH PLATE |
| 9. | AH 2522 | MICRO SWITCH |
| 10. | PBE 13722 | CASSETTE HOLDER |
| 11. | PBE 01055 | IDLER ASS'Y |
| 12. | PBE 14108 | IDLER PLATE |
| 13. | PBE 14258 | T, SPRING |
| 14. | PBD 0538 | TENSION ASS'Y |
| 15. | PBE 14337 | IDLER GEAR |
| 16. | PBE 13640 | C, SPRING |
| 17. | PBE 01054 | S REEL ASS'Y |
| 18. | PBE 01129 | T REEL ASS'Y |
| 19. | PBD 0570 | HEAD BASE ASS'Y |
| 20. | PBE 01191 | PINCH ARM ASS'Y |
| 21. | PBE 14081 | PINCH ARM SPRING |
| 22. | PBE 14066 | COLLAR |
| 23. | PBE 14082 | SPRING |
| 24. | PBE01192 | SHAFT HOLDER ASS'Y |
| 25. | PBE 13507 | EARTH PLATE |
| 26. | PBE 14107 | INTER LEVER |
| 27. | PBE 14090 | SPRING |
| 28. | PBE 14067 | COLLAR |
| 29. | PBC 1077 | INTER LOCK |
| 30. | PBE 14091 | T SPRING |
| 31. | PBD 1507 | FLYWHEEL |
| 32. | PBE 13023 | C, SPRING |
| 33. | PBE 14031 | BELT |
| 34. | PBE 14032 | BELT |
| 35. | PBE 14076 | FLYWHEEL HOLDER ASS'Y |
| 36. | PBE 14058 | CAPSTAN SUPPORT |
| 37. | PBE 13880 | WASHER |
| 38. | PGWF30A080050 | WASHER |
| 39. | PGWM16X040020 | WASHER |
| 40. | PGWF30A060050 | WASHER |
| 41. | | |
| 42. | PBE 14114 | TUBE |
| 43. | PBE 14272 | BRAKE PLATE |

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 44. | PBE 14180 | BRAKE CR |
| 45. | PBE 6007 | SPRING |
| 46. | | |
| 47. | | |
| 48. | | |
| 49. | | |
| 50. | PBE 14077 | HEAD STAND |
| 51. | PBE 13666 | C SPRING |
| 52. | | P/R HEAD |
| 53. | | ERASE HEAD |
| 54. | PBE 14075 | MOTOR BRACKET |
| 55. | VFA2L66 | MOTOR[ |
| 56. | PBE 14034 | MOTOR PULLEY |
| 57. | PBE 3883 | SOLENOID |
| 58. | PBE 3882 | SOLENOID |
| 59. | PBE 14099 | PULLEY |
| 60. | PBE 12865 | BELT |
| 61. | PBE 01196 | BACK PLATE ASS'Y |
| 62. | PBD 0638 | LOADING CASE ASS'Y |
| 63. | PBE 14106 | LINK |
| 64. | PBE 14121 | COLLAR |
| 65. | PBE 13394 | COLLAR |
| 66. | PBE 14089 | SPRING, |
| 67. | PBE 14105 | EJECT LEVER |
| 68. | PBE 14088 | SPRING |
| 69. | PBE 01374 | CYLINDER ASS'Y |
| 70. | PBE 14070 | LEVER |
| 71. | | |
| 72. | | |
| 73. | PBE 5016 | BELT |
| 74. | PBE 12929 | T SPRING |
| 75. | PBE 13261 | LAG |
| 76. | PBE 13794 | LAG |
| 77. | | |
| 101. | PGSN20A2015 | B SCREW M2 x 15 |
| 102. | | |
| 103. | PGSN20A2012 | B SCREW M2 x 12 |
| 104. | PGSP10A2603 | SCREW M26 x 3 |
| 105. | PGSP10A2010 | SCREW M2 x 10 |
| 106. | PGSD10A2605 | DT SCREW M26 x 5 |

| NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 107. | PGSD10A2606 | DT SCREW M26 x 8 |
| 108. | PGST15A2606 | F TAPPING SCREW M26 x 6 |
| 109. | PGSD10A2610 | DT SCREW M26 x 10 |
| 110. | PGSP30A2612 | K SCREW M26 x 12 |
| 111. | PGSD10A3005 | DT SCREW M3 x 5 |
| 112. | PGSP20A3004 | B SCREW M3 x 4 |
| 113. | PGST10A3010 | TAPPING SCREW M3 x 10 |
| 114. | PGST10A2610 | TAPPING SCREW M26 x 10 |
| 115. | PGSS01A2003 | SCREW M2 x 3 |
| 116. | PGRS30P | CS RING CS-3 |
| 117. | PGRE15A | E RING E-15 |
| 118. | PGRE25A | E RING E-25 |
| 119. | PGRE30A | E RING E3 |
| 120. | PGRE40A | E RING E-4 |

ref.
BASED ON PART NO OF TOKYO PIGEON CO., LTD.

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